



SEQUENCE LISTING

<110> PHILLIPS, JONATHAN
PUTHIGAE, SATHISH
YAO, JIALONG
FLINN, BARRY
FORSTER, RICHARD S.
EAGLETON, CLARE

<120> VASCULAR-PREFERRED PROMOTERS

<130> 044463-0264

<140> 10/717,897

<141> 2003-11-21

<150> 60/428,287

<151> 2002-11-22

<160> 86

<170> PatentIn Ver. 3.2

<210> 1

<211> 168

<212> DNA

<213> Eucalyptus grandis

<400> 1

```
aaaaccacaa atggccgcgg gacgtcacia tttttttttc cttctagaag ctctatagtc 60
aaagctgata tataaatttt tgggaaccac aaccaccatg tctcgccacc ttcgctcgaa 120
ccttatcacc accaccgccc ttgagccctc ctccatcaac tcttcttc 168
```

<210> 2

<211> 934

<212> DNA

<213> Eucalyptus grandis

<400> 2

```
aaaacaatgt agcttctctg tgttatgaaa actaacaaaa gggcacatct atttctccat 60
gaccattata ttcggaggag catggtcaaa cttaaataca aatttattat ccataactta 120
caaatttcca atttagctaa actcaaatcc caaagtatag caattctgtt aaaattttat 180
catccgatag tatagagcaa tattttataa tacttacatt gctcagctca attacaaatt 240
ctatttgtcc acaaattcaa acattttaat gatgcattcc acataaaacc aatggtttga 300
gacacctttt caaaaaaaag aaaaaaatac actagcattg cttagacaag ttaatcaatg 360
aaaaataact ttatcttgtt tttaattaag gatgaaaagg agttacaaac gcttgtttca 420
agataaatat ttttcaaata tttaataatta caagaaataa acggaccttc ttatcaacca 480
aaaaaatgta acataaaaagg aacttaccaa tttgattgga ctcatattat gatttttgga 540
aaaatgtcgc aaattttcgt tgagttttag ctccatgtac aatttagtca ttgaactttt 600
aatttattca atataattca tgaactttct atacatattt agtccatata aaaattaagg 660
gaccaaattg agtattcacc aaaatttttag ggaaaatatt gaataaataa aaagttcttg 720
gaccaaattt catattgaaa taaaattcat ggacaaatca ttattccttg attaaacttt 780
tttatgtaga cacccgtaaa tacaacctgc caaggtttgt ttgcaaggcg tttgcaaggc 840
```

gtttgcactt aagcgggacg gaggcgtcac cagtcaatgg gcatgtccag tggcttcccc 900
 ggcttgcgaa taggatgctt cctgaatcat ctcc 934

<210> 3
 <211> 408
 <212> DNA
 <213> Eucalyptus grandis

<400> 3
 aaagttttctc tgtagagaga gggagggaga tatatctgcg gtttgcgtct ctatttcgct 60
 tgtgcagttt tactactccc caaacacaca cacactctct ctgtttctct cctttttccc 120
 caaatcagaa gaagaaacga cagtgtagta gtgcagtttc actacaccgt ctatactaag 180
 ggtaatcggt tttttgaaag cacatgcata tagccgttgg aaaggggagg gcaccgagat 240
 cgaatcggat ggctgaccc cactagccgt tagagagaga gagagagagg gagggataat 300
 catgtgcgga catatatccg caatttgcgt ctctatttcg cttgtgcagt ttcactactc 360
 cccacacaca ctctctctct ctctctctcc ttttccccca aatcagaa 408

<210> 4
 <211> 847
 <212> DNA
 <213> Eucalyptus grandis

<400> 4
 ccttgtatatt ccccaacatt aaatgaaagc ctacatccaa aaacgtggac ccggcattaa 60
 agaaaaaccc catcatctca tcccatcctt tatttcaacc cttaaagtga attaagatat 120
 aagacgaaac ccccccaac cccccaaaa aaaaatatta agggaattcg tttttttgaa 180
 agcacatgcg gaggtagctg ttggaaaggg gcctctacgt tcggaaggaa tgcgaccatt 240
 ccacgagat caaatcgaac tactgatgct cactagctgt tgcgtttaaa cttctttgt 300
 aaagcgataa gggaattcgt tattttgaaa gcacatgcgg aggtagccat tggaaagggg 360
 cctctacgtt cggaagggaac acgaccgttc caccgagatc gaatcggacc gttgatgctc 420
 actagccatt gtgttttaaag tttctctgta gagagaggga gggagatata tctgcggttt 480
 gcgctctctat ttcgcttgtg cagttttact actccccaaa cacacacaca ctctctctgt 540
 ttctctcctt tttcccccaa atcagaagaa gaaacgacag tgtagtagtg cagtttcacc 600
 acaccgtcta tactaagggt aatcgttttt ttgaaagcac atgcatatag ccgttggaag 660
 ggggaggggca ccgagatcga atcggacggc tgatccctac tagccgttag agagagagag 720
 agagagggag ggataatcat gtgcggacat atatccgcaa tttgcgtctc tatttcgctt 780
 gtgcagtttc actactcccc acacacactc tctctctctc tctctctcct tttcccccaa 840
 atcagaa 847

<210> 5
 <211> 286
 <212> DNA
 <213> Eucalyptus grandis

<400> 5
 aaattatgca atttcttaat caggcctagc tagaaacaag ggcaaggaaa gcccccgacg 60
 ggctcttatc tgctgacgtg gcacgcgctg ggtggggccc cccgggtctt ccttcgacga 120
 aacctcatcg tagacaatca aatcctcctc tcgatcatta ttgcaaagcc aacacccagc 180
 attgaatcga tccccacctt ctctctctcc tctcttgat cctttttgtc ccgatgatga 240
 tgggtatctg atcagccgat tcaatcccat cgtctccttc cttctc 286

<210> 6
 <211> 216
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 6
 gtgcggacac gtgtcccctt atcccgccca agaccgcgca aaacctgaaa atcctcacta 60
 ttccctcact ttcggcgaat tcgaaacagc gcataaagga acacggaaag aacattctct 120
 accccaagac gacgacgacg acgacgacga cgacgccgcg ccttatataa accatcgcca 180
 ctccctggcca ttcccttctt tctccccaga tccaat 216

<210> 7
 <211> 473
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 7
 aaagataaaa atagtgtgga aaatagattt gagaagtgtt catatatattc gatttatcat 60
 agcaaagatt ttatcgacct attttaggct ttatagtgtg actattttaag ataacgaata 120
 ttaatcgaga gatgcacaat taataagaga tattctcacg atcttgagat atatagaaac 180
 cgacagaaaa tatattgatt atctctaata tagaataata ttctagagaa gtattgtaat 240
 tgtgaccacc aactaaaatg gggcagacaa agtagagggc caggtatagt caaggccagt 300
 gaaaaggaaa atgaaatgaa ataaaagaaa agaaaagaaa aatcaaattc tccaacttgt 360
 gtacaggata caccgaagc tttgtgtata taaaggccac ttaatatctc ctccaacctc 420
 gcaacacatt cgaaagataa gttgcgctta aatcctctcc aaaagagcta atc 473

<210> 8
 <211> 519
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 8
 ctgctgaaat tctcgaggaa gttgagaggt tccagattag atctttacca aacaaaaaaaa 60
 aactattgct tatgctaaat tggtcattat aataagattt ttagaatact cgttgagtat 120
 actcaactca agatattata agttttctca attgggtttt ctccatttct tatgatccgt 180
 ccacgagctt ggagtcgctt ttgaagatgt agccagccca acagaaccgt ttccttcac 240
 ttcccgcgaa agtttcatgt catctccctc ctctgcatca cgaaccaaac ctctgctctc 300
 tctctctctc tctctctgct tcaacacaat gacaccaaca tcgcaccctc ctcaccttcc 360
 caaccaccgc cataccatct cctttaagca ttccgatgag tccctgatcc accgccttct 420
 cactgagcct tcccgctctc cctcttctcg tctcactttc tcatataaag aagtgaaaga 480
 atacgaggat actccacttg ggtatcgcca agaactcat 519

<210> 9
 <211> 1607
 <212> DNA
 <213> *Pinus radiata*

<400> 9
 cctttgggaa tgaactttga gaccacctcc aaccgggatt ctgaaatcca tccagcaatt 60
 ccaaagtcc aaaccgaaat aaacatccca ccataccatg gcattcggaa aaaagctagg 120

```

ctaagctgaa aatcactgtc ataaccagtg aagaccatgc cactaatagc aagagaacca 180
tacaccaaca tgcaaagcca tgcattgtcca aaccagctag gaaatcacac atgcaaaggg 240
ttacctgcaa gtattcctgt tgaagttgct tgcacctact ttcttttcct tgagccttgc 300
ttgccttcct ttcttttgcct tgattttcct ttctttgctc caaactagag tgctctaaga 360
aaactctaag tgaccaagag agtgagagag agagagaata atgagagtcc aaacatgaac 420
ttgacaaaag ccatgaactg atcctcagaa gtcattttat gcacgaggct tctattttct 480
tcattttcca tcattttcct tcaatttcct catcacatgc aacgtgagac ttttcacccc 540
gttttcctcc taattttctt tattttcata aataaatgtg ccaaaaatgc ctcttgccct 600
agcctttgcc agtttcctta gccaaaacac acatccaatg atgcccacta ggatatcttt 660
gcccaacatt aagcctggaa taaatgtctc ttaatcgtgg tcttattttg cttttattaa 720
cttttattac atgaactttt cactaaagct attacaaaga tatatttatt atggcaatta 780
tgtttgattt ttgaagagct agtaactttt agtttattat ggccttttcc gtaaacttat 840
tttcttgaaa atctctataa atccaatgaa aaatttatag aatataatgt gtgttttctt 900
cactacctct aataaatttt ttacttagta atctacaaag ccatttatta aaaaattcaa 960
gttaattaaa aattaatatc atttcaaaag tctttttaat atagtcaaag tttattaaat 1020
tctatgatgt atattttctt taaataaatg aagaatccat ttttttactt aaaaccatat 1080
attttttata acgttgataa atagcatgca tttatataaa caaatatata tttttataac 1140
gttaagagat tgtaaaaact tttaaataat taatatttta tttattgttt tgaaaatgtc 1200
atgatttcca cctacctcgc ccatcaaatc ttgctgcaaa ccaggcttac ccaaccccc 1260
acccacaata tatttttggg atctggtgcc ccacctttg atcacagtga acaccataaa 1320
gacaaattat aaaggcaagg ggacttgagg cccatgaggc aaccgaaagc aacaaatcat 1380
ttttttccaa agagatgagt gtatgccaac gaagaaacac gatgaaccca cgtgtcattg 1440
gccaaactccc actttcgaca aaaagaagga aattagaatt aaaaaggcga ataaaaattg 1500
aaaggccatt taaaatagaa ggaagaatag cctatatggt agattttaat gcttttttga 1560
aatccggtta ctcgcaagat tatcaatcgg gactgtagcc gaagctt 1607

```

<210> 10
 <211> 1163
 <212> DNA
 <213> *Pinus radiata*

```

<400> 10
aaacagagca gataacacta aaaagaccaa ccctgttagg aggggagaaa caaaaaagat 60
cacactaaaa agaccaaccc tcttatctaa acttattttc tcttatctct accccttcta 120
ttttgaacct ttatcatttt gatagaaaat atatgttaat aaccattaaa cctacattgt 180
caagctagtg taacttatat gttaataaac attaaaccta cattgtcaag ttagtgtaac 240
tcctttggtg ggggtggttg tcttctctct caatctcatg ctatgacaca cttgtttttt 300
aataacatag gccgacaagt ttgagccatt atctatcttg attcctcgaa atgataaata 360
gatgttgtca gtggacttga aaaaaaccaa gtagggaaca ccacgtaatc tttccaatgg 420
cattaaaagc tactttgaaa tatgtaaacac ttagcaatcc ttccaaggca ttaaaccctac 480
tctaacctat ggaacactta gcacccctcc cacggttgat aataaatgat tgattcctca 540
gaataacaaa taaaaaaaaa ctataaaact tactctaaaa tataaaatga gtatggaaca 600
cgtggcaatc cttcccatgc tcggcggtag ctactctctc cagagatttg aataacacag 660
gcgccgcaat tatgagagag cagtggagtt aagacttagt agccatggtt attttgaacg 720
cgtggcaatt cttccaaagg ttggtagtta ctctatccag agatttgaat aacacaaatg 780
ctgcagttat gagagagtag tagagttaag tcttgctcagc aatgatagtt acgaacaacc 840
gtaatttctg gctatctctg tgtttattgg tcgtttactt gctacagtgc tctcacccca 900
catggttaaca gtgttcgatg gccatgattt ctccccaccc cgccaaacct ctacgttttt 960
attcttttaa taactcctaa tttaatatat aagagggggc aagggtgttc tacagattcg 1020
tgcaaacgac ctgagttcag cacaagttta gtcattccat gcgaactcga ctggetcacg 1080
agatccctcg ctgcagttat agattgcagg aattagctta gcagcatttc tatctatgat 1140
cttctgcccac ttcttccctc ctc 1163

```

<210> 11
 <211> 881
 <212> DNA
 <213> Pinus radiata

<400> 11
 aaattagtca aatccaaagc agacaacttg ggctctcacc taaattaaca catataccct 60
 accagcttcc atagtttcca acttccttcc aataaatcta ttcaaaagca tgaaaagcat 120
 gactaagggt caattcccaa gttatggaca cccacctgct ctaggcatat aggaaatcac 180
 aatccaaact acgaccaact acccaaaact ttgaagaaaa tgagtaaaga ctccccagc 240
 gatattataa ttatatgggc tctctagaac cctttattgc cccttcagc gttatatatta 300
 gttccccatt tatatatccc ttgacttatg aaaccattta ggtgcattaa catagtcctt 360
 gactaacaaa aaaattattt aggtgcagta gatacggaaa gtaaccaatg atgctaagaa 420
 actgtgcacg tactttaatg gaggtattac ttttattatg gttggtttgg atacattcat 480
 aatggaagca tgtgctcttc atcgttaaag ttgtgggtgg gcattcccca tttccacga 540
 gaaaccgaat cccggcggtg agacgacgac gaaatcgatg gatattcggg ggaaaattca 600
 cagtaaaatt cctggagaaa aagggtgccc aggtagttga aatccaaacc gccgaaatga 660
 gctggaaacc cgccttctgt cagttagttg agtcagtact gcagctgtct caggctttac 720
 actgtaaagg caccttaatg aggcattcat tctggcagtc tggctacgga acttaatatg 780
 acttgttatt cctgccccaa tatctattta ataggcatcc cccctcacta cttcttgccc 840
 acaatccctc catagtccct agcttgagac ctttttctg c 881

<210> 12
 <211> 638
 <212> DNA
 <213> Pinus radiata

<400> 12
 aagggttgct tggaccagcg acacagggaa aaacatggca tgcggggttg gattaagatg 60
 aggcccaatc ttaatttgat atgtttgcca aaccttaggt tgtttatcta atttttgatt 120
 ggatctgatc tcttgatgat ttaaggggtt tccatgttga cagcgaattg taggttcctg 180
 ggcactaagg tctaccatgt ggcgaattta tcgagagttg acaattctgg tactgttagt 240
 gatttgtcac cactctacgg tccctgcaga tctcagattt ttaatggctg cttttgatta 300
 tctaaaggct agcccctaatt cgcggctatg aatgtataaa gaatgtgttc caatgcatta 360
 gagtactcaa agacatgttg aaggaaaagg acaagtcaag ggacatgagt aataacccaa 420
 aaagcacttg gtcctgacca tctgtgtctg attcacactg ggattcacat gttatttaag 480
 aaaagttgca tcagtgtctg aatcatcaag ccattcctaa tttaccacca tgattagatt 540
 attttaatgc aagaaaacgc ctatataagg agagctgcag gccccagggt aatgcagtaa 600
 tcaaacttga ggagagattt gagagtgttt gtgaaggg 638

<210> 13
 <211> 900
 <212> DNA
 <213> Pinus radiata

<400> 13
 aaatataaca taatctaact attgatgtac attattcgcc tataacaaaa tctaagtatt 60
 gatgtcacat tattggcata taacaaaatc tttaggataa ccccttagtc aagctcttgt 120
 actttcatgt ttattaacca ataatcaag ctgatatgga atagcagacg tacgtggtaa 180
 taataaatgg agtgtaagag ttcgaacatt ttaattcgga ggggcagctt atgtggaata 240
 tcaggcaatc atacaagctt gcttttgggt aataaagacc cacatgtggt aataacaagt 300

```

ggattttaac aaaccaacat tttgataggg aggataggtg gcctggtaag ttagaatgtg 360
ctagtcatgc ctttgaaaga agttagttgt ggaagtcaaa catgttcccc acacaacaca 420
cctcaccaca caaaatgctg gtaggtcatg tgattgatgg atgggcatgt gtatcctcca 480
aaaaaaatga atatacacac taaatattct attgacataa tatacaaaga agattaggtc 540
tatggaagaa gggaaggcga aggggaagat tgggtcgtgg ggaagattgg gtcgtgtcct 600
gctagcacgt tgaataccta cacgccattt cacatctacc catcaacgtc aaatagagca 660
tccaaatcag ggcgtggtgg tgtgagggga gaggtagggag aagaagttga aaaattcttg 720
ctgaaaatcc acctaacaca cgctcaccag cccctcaacg aggggcacca attatgaata 780
ataatagcta gaacagagca gcagaagcag agtttatatc tatccattgt cgtctgtaaa 840
ttactctgtg agtgtttagt gttttcttct cttattgatt tcaggggaca agtaggtggg 900

```

<210> 14

<211> 603

<212> DNA

<213> Pinus radiata

<400> 14

```

aaacaccaat ttaatgggat ttcagatttg tatcccatgc tattgactaa gccatttttc 60
ctattgtaat ctaaccaatt ccaatttcca ccctggtgtg aactgactga caaatgcggc 120
ccgaaaacag cgaatgaaat gtctgggtga tcggtcaaac aagcgggtgg cgagagaacg 180
cgggtggttg cctagccggg atgggggtag gttagacggc tattaccggc gagttgtccg 240
aatggagttt tcggggtagg tagtaacgta gacgtcaatg gaaaaagtca taatctccgt 300
caaaaatcca accgctcctt cacatcgtag agttggtggc cacgggaccc tccacccact 360
cactcaatcg atcgctgcc gtggttgccc attattcaac catagccac ttgactcttc 420
accaacaatt ccaggccggc ttcgagaca atgtactgca caggaaaatc caatataaaa 480
ggccggcctc cgcttccttc tcagtagccc ccagctcatt caattcttcc cactgcaggc 540
tacatttgtc agacacgttt tccgccattt ttcgcctgtt tctgcggaga atttgatcag 600
gtt

```

<210> 15

<211> 1631

<212> DNA

<213> Pinus radiata

<400> 15

```

atcttatgga gtttttaaat atatatatat tttttgggtt gagtttactt aaaatttggg 60
aaaggttggt aagaactata aattgattga gttgtgaatg agtgttttat ggatttttta 120
agatgttaaa tttatatatg tagttgtgaa ggagtgtttt atggattttt taagatgtta 180
aatgtgtata tgtaattaaa attttatttt gaataacaaa aaattataat tggataaaaa 240
atgttttgtt aaatttagag taaaaatttt aaaatctaaa ataattaaac actattattt 300
ttaaaaaatt tgttggtaaa ttttatctta aatttagtta aaatttagaa aaaaaataa 360
ttttaaatta ttaaaactttt gaagtcaaat attccaaatg ttttccaaaa tattaaattc 420
atgtgacatt caaaatacaa tttaaataac aaaacttcat gaaatagatt aaccaatttg 480
tatgaaaacc aaaaatctca aataaaattt aaattacaaa atattattaa cattatgatt 540
tcaagaaaga gaataaccag tttccaataa aataaaacct catggctggg aattaagatc 600
tcattaatta attcttattt ttttaatttt ttacatagaa aatatcttta tattatatac 660
gagaaatata gaatgttcta gtccaaggac tattaatttc caaataagtt tcaaaatcat 720
tacattaaaa ctcacatcat catttgtgga ttggaaatta gacaaaagag aatcccaaat 780
atctctctca atctcccaa ataaacctaa ttaatatagt tcgaactcca ttttttggg 840
aattgagaat ttttctaccc aataatatat tttttttata cattttagag attttccaga 900
catatttgct ctgggattta ttggaatgaa ggtttgagta atgaaggttt gagttataaa 960
ctttcagtaa tccaagtatc ttcgggtttt gaagatacta aatccattat ataataaaaa 1020

```

```

cacatttttaa acaccaatatt aatgggatttt cagattttgta tcccatgcta ttgggctaagc 1080
cattttttctt attgtaattct aaccaatttcc aattttccgcc ctgggtgtgaa ctgactgaca 1140
aatgcggggcc gaaaacagcgc aatgaaatgt ctgggtgatc ggtcaaacaa gcggtgggagc 1200
agagaacgcgc ggtgttggcc tagccgggat ggggtaggt agacggcgta ttaccggcga 1260
gttggtccgaa ttgagttttc ggggtaggt gtaacgtaga cgtcaatgga aaaagtcata 1320
atctccgtca aaaatccaac cgctccttca catcgagag ttgggtggcca cgggaccctc 1380
caccacttca ctcaatcgat cgcttgcctt ggttgcccat tattcaacca tacgccactt 1440
gactcttcac caacaattcc aggcgcggtt tcgagacaat gtactgcaca ggaaaatcca 1500
atataaaagg ccggcctccg ctctccttct agtagccccc agctcattca gttcttccca 1560
ctgcaggcta cattttgtcag acacgttttc cgccattttt cgctgtttc tgcggagaat 1620
ttgatcagggt t                                     1631

```

<210> 16

<211> 786

<212> DNA

<213> *Pinus radiata*

<400> 16

```

aaacgcttca tgccccagaa gccgcactcg atgcttttaga ataaaatgga ccattaccag 60
actacgcgcc tccaaaataa caaaaacgtg tattagttaa accctacata gcacttaaag 120
cttgtcttac tattatttta cgtaattctg tctttttgac agtggattga ttggaacttc 180
cattctcgat acagttgtat gcggttatgtg aactgaacca acctcggcc aaatatgggg 240
aagattcact tcagaaaaga caggacaacc atctctgatt gtcgacatta atatcgga 300
aaattcagtc aaatgatgtg gaaagggttca tctacggaaa ataaaatagc tctgagatga 360
cccgttacat ttagtgcata gcatctttgt caacaagaag aaatttccag ttgtaggact 420
ggatcatcaat ggccgtgcct gcaacgcttt ttcgcaacag gaaacacgga ctaaaaaacg 480
cggctctatct gtcatttgac ggtacgtttg gcactgagcc cgaaaaaatc ccattggtag 540
aatttagaag agggagcttt cactcgaaaa ttctgtacca caagcgggtg cctcacaata 600
acaaattatt ataccacat ggaaaatggt aaatcgagc gtccgacggt cgaccaaaga 660
caaaattgat gagaaagtgt tgagggtggg tgataaagta agcgcgtctt ttcacaggca 720
tctgcattat aaacctgcaa ctccaacttt catcacaaca aatttcattt tccccttctc 780
tgaggc                                     786

```

<210> 17

<211> 898

<212> DNA

<213> *Eucalyptus grandis*

<400> 17

```

aaaaaattta taactaatat tggtacaatt agaaattctc ttgccttctt taatcttgct 60
gttaactcct ccatttttagg cgtagacaac tatttttttt ccacaaaaat gaaacagttc 120
ctaaatagac taacgccttt taagctggta gtagacagac cgacacaaaa tcttgaacag 180
gcatgtaccg acacaaagag attcattttca cgagtaaatt tgaatttcga caactaattc 240
tacacatcgg taatcacgca aatatatcag atcggaacaa agttatatatt tagacagtga 300
cgtgacatct caagcaccca atccctctca acaggtgaag agccatattt tcattacata 360
aaggcatttt ttttttttaa tttttaatag gtggtccgac cgacaagata ttattatttt 420
tctatttgca tgaagaagaa aaagattggg tttgaccaca atgggtttgtc ctctcggttac 480
ccattttata tttggcaagt ttggtgattg attgtagaag aaacacgaaa cacacgagca 540
aaagtaaagg actccaaacc caaattttta tccacaaacg aattttacca cataaaaaaa 600
ggggagatta tgattaaatt cgttgaataa tgcgaccctt taggagaagg cttattaagc 660
aagcatcgac ggaagctaca cactcctttt ggggagaggc tagtgggtgc aacaactacg 720
attcgggtag agctaagctt tgtccccagt ggcgggtactg ccatgaccag ggctctaaat 780

```

caaaacctaa tctgccaacc tcaaaacaaa cgctgtctcg cccccccg ctgcgtata 840
 taatgcagcc gatggcgtcc ttcctttctc gaaccctaag cagatcaaga gtttgagt 898

<210> 18
 <211> 563
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 18
 gtgaagagcc atattttcat tacataaagg catttttttt ttttaatttt aatagggtggt 60
 ccgaccgaca agatattatt atttttctat ttgcatgaag aagaaaaaga ttggttttga 120
 ccacaatggg ttgtcctctc gttaccatt ttatatgttg caagtttggt gattgattgt 180
 agaagaaaca cgaaacacac gagcaaaagt aaaggactcc aaacccaaat tttaatccac 240
 aaatgaattt acccacataa aaaaagggga gattatgatt aaattcgttg aataatgcga 300
 cccttttaga gaaggcttat taagcaagca tcgacggaag ctacacactc cttttgggga 360
 gaggctagtg ggtgcaaca ctacgattcg ggtagagcta agctttgtcc ccagtggcgg 420
 tactgccatg accagggctc taaatcaaaa cctaactctg caacctcaa acaaacgctg 480
 tctcgcccc ccgggctgcg ctatataatg cagccgatgg cgtccttctt ttctcgaacc 540
 ctaagcagat caagagtttg agt 563

<210> 19
 <211> 524
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 19
 aaattttttt ttttttttgg gtgggtagta ggatctgtca gagtaaagtg acttaacgcc 60
 aattctcgac atttcagact aataaaatat ttacagatgc aacgtctcac tctctccttg 120
 caaaaccaga aagggacagc aagcaagaag agggggaaga gaagacttgc gttttaagca 180
 aggggagtg tgaactttca agcgacttaa ttaactctgt tagcaccac tttgggtcgt 240
 ttgatcttct cgtgatttat tatttaccta tgtacagctg cggttgaaat ggcctctctc 300
 gcttaaattg tagtttgtcc ttttcttggg gtgggtgctt tggaaatatt cttttagaag 360
 caggggcaaa gaaatggagt ggcattctgat gcttcttcaa cactttgcag ccatatcgag 420
 aatatatacc tagagagaga gagagagaga gagagagaga ggagcagtgg agaagaagga 480
 gaagaagaaa agggtcagat cagatccagt tgttgggagc aagt 524

<210> 20
 <211> 638
 <212> DNA
 <213> *Pinus radiata*

<400> 20
 ctgtattcat cactttacac ccatgattcc aaacctaca catttacact gataaccaag 60
 gggttcagggt ctttccaatt cattttaatc caggatgata ataaatttga atagcacaat 120
 agcatattcc aactgacata tccctacatt tgggatctct ttccacgta taaatggctt 180
 caatttaggg atccctttcc acattatata actgggttca cagtgggttg aagatagctg 240
 tgggttgaag atagctgtat atgttatcaa aatgacagct cccttgccag ggaccatcgc 300
 ttgaatgatg agatcccgcc tgtaaggcaa cttgcagcat gattatttta catctgcttg 360
 accaattatc taacaatata cgcggtgtcg tcgttcggtt aaataatagt gaaacttctt 420
 cgtgtgtgct ctgcagttac gtatgtcttg ttcttttttt tgtttaataa catacagcag 480
 agcaagtgtt ggggtgaataa atattgggaa gaagctgcag cgttcacgtt cattcattca 540

ctcatcgtga gcagcagtac atcaacagtt cttgaagaac attgataggt tggctatttc 600
aatcctttca tggggaatat ttaagtcctg atccgagc 638

<210> 21
<211> 862
<212> DNA
<213> Pinus radiata

<400> 21
aaatataaca taatctaact attgatgtac attattcgcc tataacaaaa tctttaggat 60
aacccttag tcaagctctt gtactttcat gtttattaac caataaatca agctgatatg 120
gaatagcaga cgtacgtggt aataataaat ggagtgtaag agttcgaaca ttttaattcg 180
gaggggcagc ttatgtggaa tatcaggcaa tcatacaagc ttgcttttgg gtaataaaga 240
cccacatgtg gtaataacaa gtggatttta acaaaccaac attttgatag ggaggatagg 300
tggcctggta agttagaatg tgctagtcac gcctttgaaa gaagttagtt gtggaagtca 360
aacatgttcc ccacacaaca cacctcacca cacaaaatgc tggtaggtca tgtgattgat 420
ggatgggcat gtgtatcctc caaaaaaat gaatatacac actaaatatt ctattgacat 480
aatatacaag gaagattagg tctatggaag aagggaaggc gaaggggaag attgggtcgt 540
ggggaagatt gggtcgtgtc ctgctagcac gttgaatacc tacacgccat ttcacgtcta 600
cccatacaac tcaaatagag catccaaatc agggcgtggt ggtgtgaggg gagagtgagg 660
agaagaagtt gaaaaattct ggctgaaaat ccacctaaca cagctcacc agccctcaa 720
cgaggggcac caattatgaa taataatagc tagaacagag cagcagaagc aaagtttata 780
tctatccatt gtcgtctgta aattactctg tgagtgttta gtgttttctt ctcttattga 840
tttcagggga caagtaggtg gg 862

<210> 22
<211> 693
<212> DNA
<213> Eucalyptus grandis

<400> 22
aaacggacag gaaccaaact ggatcggatc caattcctag tcctaaaacc aaccaatccc 60
cactttctaa tttttggaat cggtcctata ggttccattt tgaaatcgat cgcccttata 120
tgaatgaaag agcgtcaca tgtaccgtta gatggtatag acctaataat ctgataatct 180
gatggctcat tgcgttttga gctcacatgg agcgagatta tgtaataatg acgtcagggg 240
gaggagagga gagaagatga agagaaagct gtggagaaac aaaacacaag gctcgttggg 300
agcaacgtaa acaacagcaa acaacatcaa caacggcgac aaaagaagag agagagagag 360
agagagagag aggaaacaaa aacaaaagca aaagttgggg agtgaagagg ggaaaagaaa 420
gatgatgtga aaacaaacca aactctcctt ttcttccacc tctcattttc tgtctggtat 480
atgggggtct ctctctctct cctctctctc ctctctctct accttctctc tctactttct 540
ctttcttagg ggggggcgtc cccagggtct ccgatcccaa tatcattccc cccactctt 600
ttgctgccat atacatacaa aaaaccgaag cttgtgaaca acccatctct ctctctctct 660
ctccctctct ctttctgcct gcgaaactgt gtc 693

<210> 23
<211> 934
<212> DNA
<213> Eucalyptus grandis

<400> 23
aaaacaatgt agcttctctg tgttatgaaa actaacaaaa gggcacatct atttctccat 60

```

gaccattata ttcggaggag catggtcaaa cttaaataca aatttattat ccataactta 120
caaattttcca atttagctaa actcaaattcc caaagtatag caattctgtt aaaattttat 180
catccgatat tatagagcaa ttttttataa tacttacatt gctcagctca attacaaatt 240
ctatttgtcc acaaattcaa acattttaat gatgcattcc acataaaacc aatggtttga 300
gacacctttt caaaaaaaag aaaaaaatac actagcattg cttagacaag ttaatcaatg 360
aaaaataact ttatcttgtt ttttaattaag gatgaaaagg agttacaaac gcttgtttca 420
agataaatat ttttcaaact ttttaatatta caagaaataa acggaccttc ttatcaacca 480
aaaaaatgta acataaaaagg aacttaccaa tttgattgga ctcatattat gatttttggg 540
aaaatgtcgc aaatttttctg tgagtttttag ctccatgtac aatttagtca ttgaactttt 600
aatttattca atataattca tgaactttct atacatattt agtccatata aaaattaagg 660
gaccaaattg agtattcacc aaaatttttag ggaaaatatt gaataaataa aaagttcttg 720
gaccaaattt catattgaaa taaaattcat ggacaaatca ttattccttg attaaacttt 780
tttatgtaga caccgtaaaa tacaacctgc caaggtttgt ttgcaaggcg tttgcaaggc 840
gtttgcactt aagcgggacg gaggcgtcac cagtcaatgg gcatgtccag tggcttcccc 900
ggcttgcgaa taggatgctt cctgaatcat ctcc 934

```

<210> 24

<211> 408

<212> DNA

<213> *Eucalyptus grandis*

<400> 24

```

aaagtttctc tgtagagaga gggagggaga tataatctgcg gtttgcgtct ctatttcgct 60
tgtgcagttt tactactccc caaacacaca cacactctct ctgtttctct cctttttccc 120
caaatacaga gaagaaacga cagtgtagta gtgcagtttc actacaccgt ctataactaag 180
ggtaatcggt tttttgaaag cacatgcata tagccgttg aaaggggagg gcaccgagat 240
cgaatcggat ggctgatcct cactagccgt tagagagaga gagagagagg gagggataat 300
catgtgcgga catatatccg caatttgctt ctctatttcg cttgtgcagt ttcactactc 360
cccacacaca ctctctctct ctctctctcc ttttcccca aatcagaa 408

```

<210> 25

<211> 847

<212> DNA

<213> *Eucalyptus grandis*

<400> 25

```

ccttgatatt ccccaacatt aaatgaaagc ctacatccaa aaacgtggac ccggcattaa 60
agaaaaaccc catcatctca tcccatcctt tatttcaacc ctaaagtga attagatat 120
aagacgaaac ccccccaac cccccaaaa aaaaatatta agggaattcg tttttttgaa 180
agcacatgcg gaggtagctg ttggaaaggg gcctctacgt tcggaaggaa tgcgaccatt 240
ccatcgagat caaatcgaac tactgatgct cactagctgt tgcgtttaaa cttcttttgt 300
aaagcgataa gggaattcgt tattttgaaa gcacatgcgg aggtagccat tggaaagggg 360
cctctacgtt cggaaggaa acgaccgttc caccgagatc gaatcggacc gttgatgctc 420
actagccatt gtgttttaaag tttctctgta gagagagggg gggagatata tctgcggttt 480
gctctctctt ttcgcttggt cagttttact actcccaaa cacacacaca ctctctctgt 540
ttctctcctt tttcccaaa atcagaagaa gaaacgacag tgtagtagtg cagtttcacc 600
acaccgtcta tactaagggt aatcgttttt ttgaaagcac atgcatatag ccgttggaag 660
ggggagggca ccgagatcga atcggacggc tgatcctcac tagccgttag agagagagag 720
agagagggag ggataatcat gtgcggacat atatccgcaa tttgcgtctc tatttcgctt 780
gtgcagtttc actactcccc acacacactc tctctctctc tctctctcct tttccccc 840
aatcagaa 847

```

<210> 26
 <211> 473
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 26
 aaagataaaa atagtgtgga aaatagattt gagaagtgtt catatatattc gatttatcat 60
 agcaaagatt ttatcgacct attttaggct ttatagtgtg actattttaag ataacgaata 120
 ttaatcgaga gatgcacaat taataagaga tattctcacg atcttgagat atatagaaac 180
 cgacagaaaa tatattgatt atctctaata tagaataata ttctagagaa gtattgtaat 240
 tgtgaccacc aactaaaatg gggcagacaa agtagagggc caggtatagt caaggccagt 300
 gaaaaggaaa atgaaatgaa ataaaagaaa agaaaagaaa aatcaaattc tccaacttgt 360
 gtacaggata caccgaagc tttgtgtata taaaggccac ttaatatctc ctccaacctc 420
 gcaacacatt cgaaagataa gttgcgctta aatcctctcc aaaagagcta atc 473

<210> 27
 <211> 519
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 27
 ctgctgaaat tctcgaggaa gttgagaggt tccagattag atctttacca aacaaaaaaaa 60
 aactattgct tatgctaaat tggtcattat aataagattt ttagaatact cgttgagtat 120
 actcaactca agatattata agttttctca attggttttt ctccatttct tatgatccgt 180
 ccacgagctt ggagtcgctt ttgaagatgt agccagccca acagaaccgt ttccttcac 240
 ttcccgcgaa agtttcatgt catctccctc ctctgcatca cgaaccaaac ctctgctctc 300
 tctctctctc tctctctgct tcaacacaaat gacaccaaca tcgcaccctc ctaccttcc 360
 caaccaccgc cataccatct cctttaagca ttccgatgag tccctgatcc accgccttct 420
 cactgagcct tcccgctctc cctcttctcg tctcactttc tcatataaag aagtgaaga 480
 atacgaggat actccacttg ggtatcgcca agaactcat 519

<210> 28
 <211> 216
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 28
 gtgcgacac gtgtccctt atcccgccca agaccgcgca aaacctgaaa atcctcacta 60
 ttcctcact ttcggcgaat tcgaaacagc gcataaagga acacggaaag aacattctct 120
 accccaagac gacgacgacg acgacgacga cgacgcgcg ccttatataa accatcgcca 180
 ctctggcca ttccttctt tctcccaga tccaat 216

<210> 29
 <211> 286
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 29
 aaattatgca atttcttaat caggcctagc tagaaacaag ggcaaggaaa gccccgacg 60
 ggctcttatc tgctgacgtg gcacgccgtg ggtgggcccc cccgggtctt cttcgacga 120

```

aacctcatcg tagacaatca aatcctcctc tcgatcatta ttgcaaagcc aacacccagc 180
attgaatcga tccccacctt ctccctcctc tctctttgat cctttttgtc ccgatgatga 240
tgggtatctg atcagccgat tcaatcccat cgtctccttc cttctc 286

```

```

<210> 30
<211> 168
<212> DNA
<213> Eucalyptus grandis

```

```

<400> 30
aaaaccacaa atggccgcgg gacgtcacaa tttttttttc cttctagaag ctctatagtc 60
aaagctgata tataaatttt tgggaaccac aaccaccatg tctcgccacc ttcgctcgaa 120
ccttatcacc accaccgccc ttgagccctc ctccatcaac tcttcttc 168

```

```

<210> 31
<211> 748
<212> DNA
<213> Eucalyptus grandis

```

```

<400> 31
ctgtcacctc tggctggtcg ccgaacctca gcgaccgact ggaggaagaa gagggaaaaga 60
aaaaaataaa aataaaattc taaaatatta aaatattatt aaaagttgtc cacgtcagcg 120
ttgaggccac gttaactagc cgggtgctgag tcagcaaaat tcggccaaaa ttggcacaaa 180
aaaagggttta ggactttttt gacgcttttc ccgtcatgag cctaaataag aaattttaat 240
ttcttcatac cataccaatt atttgatatg agatttttct aactaattca cacatctatg 300
ctaacgctac tcgctcaaaa agcgtcaag ctgaagccaa gtttcaagca tcaagcttat 360
aagccgagcc aagctcgagc acggtgcttc tttctcggc ctgaccgat tagactcttg 420
actgaacatg acatatgaaa ttgcagagca ttcaatttaa aagattgtga aatttctggg 480
catttattta cctccctggt aatgatattg cagagcattc aatttaaaga ttgtgaaatt 540
tctgggcatt tatttacctc cctgttaatg atatttttat ggaatagcgt gcaaagaatt 600
cgggtgcata gtgttgctct tctcccaacg cccctttata taatctccga acggagcaag 660
catttgctct tccgtaccca cggcattttc cttctcgtga ctttttcccg agaaaacaag 720
aagaagagaa aatccttcca ttgcatcg 748

```

```

<210> 32
<211> 1161
<212> DNA
<213> Eucalyptus grandis

```

```

<400> 32
ctgacgccta acatgtacct taactgtaat gtagcagcgc aggtcgtcat agcagaggcc 60
ggtcattgctg gtcaggtagt tactttaaaa atctggaaag cttctttgtt gttgtctttg 120
ctgcttttct tcgctctttc ggccaacttc ccagtcgatt catcggtcta aagaatagac 180
acggagggtta tcgcaaaactt atgcagagat tccttgcggt acgcaaatgc atgtttaata 240
gatcattatg ttaaatagat aatatagtga ctttcaggat ccgtttgttt tgcaaatttt 300
ttttcctaaa attggtaaca tgcaacgctt gaaattatca attagcgaaa aatattatta 360
tcatagagaa caatttatat aaaccttctc ccagcctaata agcatgcct ggttctctaa 420
tatcaaagaa aaagaggagc tagatctcgc ctttagaatg atttgaagta attgcagtta 480
gcttgaagac attcgtagat gtcgattgat caatgctttt ggaagtacta gagatgcgca 540
cgcatacgtg cgatatccaa actatttccg ttgaccctca cgaaaatctc cgtacagacc 600
gttgttgcta attctttatt tgccgtaaaa tctgcatgaa tccataaatt caatgattcg 660

```

```

aacgtgacgc agaggaagtt atgcattcca aaagatagca tttattttta ataaagaagt 720
gaagattaca atatcttagg tgcctattta tagagaggtc gtcattctaga aaataaccaa 780
gtaaccgaaa ttgaataaca aaattaaaaa atatatttg ataaaaagg aaagttatca 840
aaatacaact agaaaatctc caaaatgtgt ttgaaatctg tgatatctcg gatttgtggg 900
atcgcttgct ctcatgacgc tctaattgtt ccataaaggc atttgcgagg attattgtgt 960
cggattattc agcttgcaag aaaagttata gtgcgagcaa accatataaa ataacaataa 1020
ataatggcaa aaactatcgc cgaaaattct ccaatgacga caaggactcc gatttagtgg 1080
aattttgtgc tgtcaatttg actataaata cccgcccgtt gtgctcccaa atcgagtgc 1140
agaaatgaaa ctctgacca a                                     1161

```

<210> 33

<211> 563

<212> DNA

<213> Eucalyptus grandis

<400> 33

```

gtgaagagcc atattttcat tacataaagg catttttttt tttaattttt aataggtgg 60
ccgaccgaca agatattatt atttttctat ttgcatgaag aagaaaaaga ttggttttga 120
ccacaatggg ttgtcctctc gttaccatt ttatatttg caagtttggg gattgattgt 180
agaagaaca cgaaacacac gagcaaaagt aaaggactcc aaaccctaat tttaatccac 240
aaatgaattt acccacataa aaaaagggga gattatgatt aaattcggtg aataatgcga 300
cccttttaga gaaggcttat taagcaagca tcgacggaag ctacacactc cttttgggga 360
gaggctagtg ggtgcaacaa ctacgattcg ggtagagcta agctttgtcc ccagtggcgg 420
tactgccatg accagggctc taaatcaaaa cctaattctg caacctcaaa acaaacgctg 480
tctcgcccc cccggctgcg ctatataatg cagccgatgg cgtccttcct ttctcgaacc 540
ctaagcagat caagagtttg agt                                     563

```

<210> 34

<211> 524

<212> DNA

<213> Eucalyptus grandis

<400> 34

```

aaattttttt ttttttttgg gtgggtagta ggatctgtca gagtaaagtg acttaacgcc 60
aattctcgac atttcagact aataaaatat ttacagatgc aacgtctcac tctctccttg 120
caaaaccaga aaggacagc aagcaagaag agggggaaga gaagacttgc gttttaagca 180
aggggagtg tgacttttca agcgacttaa ttaattctgt tagcaccac tttggttcgt 240
ttgatcttct cgtgatttat tatttaccta tgtacagctg cggttgaaat ggcctctctc 300
gcttaaatgg tagtttgtcc ttttcttggg gtggttgcct tggaaatatt cttttagaag 360
caggggcaaa gaaatggagt ggcattctgat gcttcttcaa cactttgcag ccatatcgag 420
aatatatacc tagagagaga gagagagaga gagagagaga ggagcagtgg agaagaagga 480
gaagaagaaa agggtcagat cagatccagt tgttgggagc aagt                                     524

```

<210> 35

<211> 1795

<212> DNA

<213> Eucalyptus grandis

<400> 35

```

atcattaata tcattagaaa gatataattac attttaaaga tgaataaaca tttgaaatgt 60
tttctctaca actaaaaaaa aaatcattgc ctctacaact aaaaaaaga tcattgcccc 120

```

```

ttatgacatt tcattttttt tctaatacaca tcaaattact ttagaataac tatccagctg 180
ccaaaaaaaa atagtattgt atatctaaaa taaatatatt gacaaatgcc aactaaatta 240
ggatatcaacg aatacctctt actttcctac aatcgaagat gtaaagacta atgtacattt 300
cttcatgatt atgtactaat cgattacaaa aaccaacatt tttttttagt tcttgaattt 360
cttttatttta ggaacagtat ccaccaaata tgttcttttag ctaaagaatg atatatatta 420
tttttaaaat tgcgattgga ttcttcatat gttatatctt gttcaaatat tattattttg 480
atgtgatttt caaaaataaaa cagaaaaata aatctcatct cgttcctttt ttcaatagtg 540
aaaatcccac caaatttcatt gacaaaaaat catgaaaaca gtaaagcttg tatttttcatt 600
cccaacttta aaactggtgg gtgacattcc aaatgatcat atggtcatat actaattttc 660
ccaattttctg agcgtgctca acgtgattgt acccttttat ttccggatca tgccagggtca 720
atagagaaaa ttatcaaaag attagtttaa tgatgaattg ggaccaacct ctcaagtcca 780
tgaaaactgcc gtatgcgcaa ccgtaagctc cgttccaatt tttctaataga ttcaaggaaa 840
aataaataaaa taaaaaagtc catcgtcgat gtgacatttc gcctgcgctc tccagctact 900
taatcaatca atatatatga attattttagc acatgacagc atttttccct ttttctggc 960
gtcctcctag ggtggatccg gaccgtggat cgaactacag gagtggcggg gctctccgcc 1020
accgacagca aagtcaatat caatcatcga tggcagtcgc tttccggacg attcatactc 1080
atccgagtc atttcccact tcaacctcaa gtccctcctc gtccacaaat gtaaaaaatga 1140
aaaaatggag ggcagattag actgaatttt agctgtacaa cacatgttgc ctgtgcttca 1200
cgttcaagat ccacggttgc tttgctgttg cactcgcacc aactgtactg aatctccctt 1260
tatttctctc ttttaatttt tttttttttg ggtgggtagt aggatctgtc agagtaaagt 1320
gacttaacgc caattctcga catttcagac taataaaaata tttacagatg caacgtctca 1380
ctctctcctt gcaaaaaccag aaaggggacag caagcaagaa gagggggaag agaagacttg 1440
cgttttaagc aaggggagtg ctgacttttc aagcgactta attaatctgt ttagcaccca 1500
ctttgcttcg tttgatcttc tcgtgattta ttatttacct atgtacagct gcgggtgaaa 1560
tggcctctct cgcttaaatg gtagtttgct cttttcttgg ggtgggttgc ttggaaatat 1620
tcttttagaa gcaggggcaa agaaatggag tggcgtctga tgcttcttca acactttgca 1680
gccatatacga gaatatatac ctagagagag agagagagag agagagagag aggagcagtg 1740
gagaagaagg agaagaagaa aagggtcaga tcagatccag ttgttgggag caagt 1795

```

<210> 36
 <211> 542
 <212> DNA
 <213> Eucalyptus grandis

```

<400> 36
aaactcatat tcttgataag atgcagacat tgctggcggt caacaaggaa aagaaaaaga 60
aggaataaga caaagtgaag gagaaaaagg aaaaaaaaag taaagtaaaa taaaatatca 120
ttaaaaattg tgtatgttag ggttgttagg catttatgtc cgcaccaatt gacgcattta 180
tgtccgcacc aatcgaacca tttatgttcg caccaatcga cgcattttatg tctgcaccac 240
tcatctgcac caattggcca aaattggcca gaatgattga attgacataa ttgcaaaata 300
tctaagactg aacaagcaaa aaaaaaagtt atgaccgaat tagaaaaatt acaatagatt 360
tatgactttt tttgtaattc cccccaccta actctgtcaa acctgcta atagactaat 420
tcattcatat atttatatat acacactcat aggttgatat atgaatatgg gggtacgtat 480
aaccctatgt gctaaaatct tggagaactt cctattcata tcagaagaag aaccgatcct 540
gt

```

<210> 37
 <211> 858
 <212> DNA
 <213> Eucalyptus grandis

<400> 37

```

aaaacagatt gtttttagatt gataacgttt tcttatcatg ccggcatcat ctcaattttg 60
aattatatcg gagcattaaa tataaaaagtt aggttacgga tgaatgataa cgcagacctt 120
gtgagaaaaat tagtataatc acgataaaaa tatccatata gacatcacaa aaatgccgcc 180
cgatctgatg aaatccgaca aataacacaa acatatatat gtccaagact tggacttcaa 240
gtcgacatgc ttgtgcatgc acaatttttg gccataaaat tgggcatgtg agaacctcaa 300
accgtaaga gatcaggtat ttactttgtt tgtcgactga cgagacgtgc acgcatttca 360
caccctcttc tcattgatct tcaaagcttt tccgaactca cgatgggtcc agaaaggcga 420
tgttttgctg acagagggag cgttcgatgg agcttctcca tcaacttaatt tgtcccttca 480
agatgaaaaa agtaagaggt ccaccgtacc aaaacattct tccaccaga agaaaaccac 540
agtagctgga gggagtcaag catgtcagaa gcacagaaac tgggaatggc taaaaagcaa 600
gtcttgacc ttaaccacc ccactgggtc acctaccgca cctcgggtta ggtattgctt 660
gtcgaggtgt cacttttcgc caaagtcatg tctctctttt ggaatcttct tattggctcg 720
tctcgtttcc tcgttgctgg atgctggtag cgtttttgtc catatatata tgcagtccat 780
atgtatcccc gtcactcttc atctatgctc ctaccgggca acttcccact acgataagca 840
gcaagttttc ggctctgt
858

```

<210> 38

<211> 547

<212> DNA

<213> *Eucalyptus grandis*

<400> 38

```

atcaggtatt tactttgttt gtcgactgac gagacgtgca cgcatttcac accctcttct 60
cattgatctt caaagctttt ccgaactcac gatgggtcca gaaaggcgat gttttgctga 120
cagagggagc gttcgatgga gcttctccat cacttaattt gtcccttcaa gatgaaaaaa 180
gtaagaggtc caccgtacca aaacattctt ccaccagaa gaaaaccaca gtagctggag 240
ggagtcaagc atgtcagaag cacagaaact ggggaatggc aaaaagcaag tcttgacct 300
taaccaccac cactggttca cctaccgcac ctcggttag gtattgcttg ctgaggtgtc 360
acttttcgcc aaagtcatgt ctctcttttg gaatcttctt attggctcgt ctcgtttct 420
cgttgctgga tgctggtagc gtttttgtcc atatatatat gcagtccata tgtatccccg 480
tcactcttca tctatgctcc taccgggcaa cttcccacta cgataagcag caagttttcg 540
gctctgt
547

```

<210> 39

<211> 862

<212> DNA

<213> *Eucalyptus grandis*

<400> 39

```

aaacactttc tgtaaactta tttttgcaaa caatccaaag ccaaaaaagt aaagaaacta 60
ttttcagata ggaaattttt ctcaaaacaa ggatcgtcga tgggactgga gctctcagcc 120
caaaaaagaa aaaaagaaaag gtaatgtgat gtaagagaga ggaaagtaaa gttgaagaac 180
gtgtatgcaa agcgacatga tgggggagag catttgatgg acaatcattg ggccaactca 240
catgaagtcc ttacaacaaa cagttggagg acgatgcagc tccagctcga ttcagcgact 300
ccaattatat ttccctctct ggtcctctcc tctttccat gcgcaatcca gctaagtttc 360
tattccatgg cccctttgct actaggttca catctgccag atatttttct ggtatgcagc 420
taaaagcata gtagtgcctt ttggaaaagt tgatcatagt aactgggctg gtccagttta 480
attagagcaa tctatgatga aattactaat gaatttttgg gaagtgcgtt ttttggtttc 540
tcggaatttc tcaccaatat cattgcttca atattagtta aaatagacga ctgaaaagat 600
catgatagat aaaaaaaagg gagtgccaa attatttttc tctaattctt acttaactta 660
agcttcatgc atgctgcca tcttgtgtt ggtcattaac taacctagaa ggaggggggg 720

```

```

aaaaggtaaa acatgtcata aaagggttag ttagaccctt caccctaaat gattgcccac 780
tgccaccact ttaatcatca actttccaac caacacttgt ttttttggct tccctttctt 840
atcctccatt ctctctctc ct 862

```

```

<210> 40
<211> 611
<212> DNA
<213> Eucalyptus grandis

```

```

<400> 40
atcaatgagt gaaagggggc ggcacaagag agatatactt acacatgctc cccctagact 60
agacgacaga cgcaatttac acatgtccga gacatacggg catgaaatgg gaattctgat 120
gtagaaatag catgaaccca tttagcaaaag aattgagaac tgggccggaa ctctgctcgt 180
gttaactaat ccaagcgtcg gtcaagctgt gcgcacgcat ggggtgggaag ggggcggggg 240
taggtgcaca gggaatttgg tttgggggtt agagtgtgtc aaaagccgaa acggtgttag 300
gcattgggct ttttggcttt cggcttcaag acaatttgaa ggggagatgg ggcgtgccat 360
ctgctctccc cctgccatat gacccatcat cccctctcca tctccatcta cctctacctt 420
ccccgcccc ctctctcttc ttctctcttt ctctttcttt ctctgaaaaa ttttaattta 480
ttaaataatt tattgcccc cccctctccc ctctccaaaa ccgaatttaa cccaacctc 540
tctctttccc tccacccaaa tctctacaca tcatcatcat catcatcatc atctctctcc 600
ctcccttttc t 611

```

```

<210> 41
<211> 498
<212> DNA
<213> Eucalyptus grandis

```

```

<400> 41
aaaatcatt aacggcttca cccaatatac tagttatctc ataagtggca atctaaaaaa 60
aaaaacacta tagttacgtc gatgaaaggc cgcacttata tggtcgaaat cagaacctga 120
atctctatta ttgatctaaa caaatcacgt cgagtgtgat ctagtttatg aaaaatacta 180
caaagaaatg aaaaaaaaaa tgtaaattg aatgcaattt attagcaatg ggtttgaaaa 240
ttagtaatat tatatctatt gtcattgcaag atatgaatat tttagatcct tctagaagca 300
cggataactt atgactcgat gttttcttaa atctttggac acttgtcatt ttttcataga 360
gaagcgacga gaagatcttt cgcggctgtt tcacctaccc caacctttgt ccttatgcat 420
cttggtgag atgtcaacct taggcttccg acaccttga ctctctctcc tccatcgctc 480
tcattctctc cctgtata 498

```

```

<210> 42
<211> 362
<212> DNA
<213> Pinus radiata

```

```

<400> 42
aaaaaagttt cccaatctct aagcaaccat aaagctcaac cactctctgt cctgtgcccc 60
aacgtctacc agacgattag gtatgcaactg cagttcttcg tctgtcatgc taccagacag 120
ttaggttaacc actaatgtct taggtgggtg ttgatattga tgtttcttct gcaaacatgt 180
gaatcaatgt gtatcgctgg aatatgacac tgtggatcac tggatataca tagagagatc 240
tgctctgtcc atttttaaca gattcatctc aattttcttg ttccaatgtc aacattttct 300
caactgctct gccccatctt tattaaaagg gaacatctac cctgcatttc cacactccaa 360
tc 362

```


<210> 43
 <211> 810
 <212> DNA
 <213> Pinus radiata

<400> 43
 cctataaaaa aagattttat taagagcatt tggaaaacta tcatctttcc aggaccataa 60
 aactatttta tagttcaata aagatgaagt agttactatt taatagttta ataaaaatta 120
 agtagtctaa cagttatata gttatatata tgtgtgtgtt ttgggtatgt tttcagggtg 180
 aatgatgtat aattgagtaa ggattttttt tggaaattagt gaattttttt ttttcagaat 240
 aacaattcta tatatatcat aaaaataaat tttaaataaa aaaaatctaa ataaaaatta 300
 tttaaaaaaa cactaaaacc attagtatac caacacttca atttaatgat ggataaaata 360
 ataagctagc tctgcttaac attacactgt ggtgagtttg acatgaaaaa atagatctct 420
 gctttcagaa gtacgcattt ttaaatttaa aaaagtttcc caatctctaa gcaaccataa 480
 agctcaacca ctctctgtcc tgtgccccaa cgtctaccag acgattaggt atgcactgca 540
 gttcttcgtc tgtcatgcta ccagacagtt aggttaaccac taatgtctta ggtgggtgatt 600
 gatattgatg tttcttctgc aaacatgtga atcaatgtgt atcgctggaa tatgacactg 660
 tggatcactg gatatacata gagagatctg ctctgtccat ttttaacaga ttcactctca 720
 ttttcttggt ccaatgtcaa cattttctca actgctctgc cccatcttta ttaaaggga 780
 acatctaccc tgcattttca cactccaatc 810

<210> 44
 <211> 334
 <212> DNA
 <213> Pinus radiata

<400> 44
 aaaactaatt ttcaaaatat gaggaaaaaa gcgagaccac gaaaaaatca ttgaaaaaga 60
 ccttgcaaaa ttcaggactt gctctcacca acctcgccag gactttgacc gtgctcatgc 120
 ttgtgtcatg cttgcatatc tatacgtgtc acatcgaccg tccgatctat catgaaaaga 180
 acgggtcatg tgaaatctca actaaacca ctgcgtaaaa ttttcgaaca gtgagaaagt 240
 aatcgataaa atacccttaa gctcttagac cgagaacgca tgcagcatto ggctctcatt 300
 ctgaggttca tctggctgaa gtttgaactg tgct 334

<210> 45
 <211> 476
 <212> DNA
 <213> Pinus radiata

<400> 45
 atcatcacca gtgccaccta agaacgcggt tgtattgaga taccatctat tttttcggat 60
 gcaattacta gtttaataatt tataacatta ttaggggtgg ggtccagaaa aatgaaaaaa 120
 gaaaaagaaa attgaaattt taaaactaat tttcaaaata tgaggaaaaa agcgagacca 180
 cgaaaaaatc attgaaaaag accttgcaaa attcaggact tgctctcacc aacctcgcca 240
 ggactttgac cgtgctcatg cttgtgtcat gcttgcatat ctatacgtgt cacatcgacc 300
 gtccgatcta tcatgaaaag aacgggtcatg atgaaatctc aactaaaccc actgcgttaa 360
 attttcgaac agtgagaaag taatcgata aataccctta agctcttaga ccgagaacgc 420
 atgcagcatt cggctctcat tctgaggttc atctggctga agtttgaact gtgctc 476

<210> 46
 <211> 536
 <212> DNA
 <213> *Pinus radiata*

<400> 46
 aaagatgcta caatttgatt tctttttagt taaatttaaat cagaaatata gaaaaagggtt 60
 aggaagatgt ttgcagtcgt aaatatgagc gcaatggcct ttagtccacg cgtagtggca 120
 catcttacac ggatacttgg ttttcagccc cacacaactg caagggttgc ttcgaaggta 180
 actcttacgt tggtttgagt gcccataaca tattagcttt ttattttgtg tcaactgtcga 240
 catcgttggc cctaatttta tcgtatgatc aggcctgat ctctctcgcc accatttcct 300
 tataaggcgc cagcagacaa gcacagctct ggaagggaaca tgggtgagtg acattaaagc 360
 aacgcgatga cctcatacca gcttcaacag cttacaccat aagacacgct tccccatgga 420
 catcctccta cgtatcactc acttgccctat atattcatgc aactccgtca cagttttata 480
 ataattcagg tgccttttat atcagtagta tcaacggata caccagggt gattgt 536

<210> 47
 <211> 680
 <212> DNA
 <213> *Pinus radiata*

<400> 47
 aaattcatgt ttgtcatagg ttatggtatt ttgcacacat gaaacaaatt ttacaattga 60
 ctttgattaa gatattaaat ctacaatagg ttatcaactc cacgtgataa tgaagtaaaa 120
 agactggatg gctaagtcaa taaaacaacc aaataatcaa gcaatgatag cttctatcaa 180
 ataaggatgg ttcagctaga tccaggcgaa atatgattca gccagatacg aaaaggcgag 240
 cggttgaaat gtttgaatgt ttgcggggtc cctgggttgc tgggaggta ttctacgtaa 300
 tttattcggt ataccttgcc ttctaagcat cgcaaaactgt gatttcttaa caaactcgat 360
 gcatgcgcga taaccaacaa aaccatttag ttgagtttac ggtcttcaca attcatgctc 420
 agtcaccttc aactattatg acagattagg tgctacttat tctctcgta cccttttagag 480
 tgaactttta tccaaattgt caggtgattt gggccccag gcgatggatc cagcgacagg 540
 ggaacgcaag tttggtggtt gtggcagtgc agttggtatg cccagagag ttttaagact 600
 tcagatttgt gttcagtatc aggagctgct atggaaaaag caaccatata aaactattgc 660
 cattcgcaca ggaacagaac 680

<210> 48
 <211> 1607
 <212> DNA
 <213> *Pinus radiata*

<400> 48
 cctttgggaa tgaactttga gaccacctcc aaccgggatt ctgaaatcca tccagcaatt 60
 ccaaagttcc aaaccgaaat aaacatccca ccataccatg gcattcggaa aaaagctagg 120
 ctaagctgaa aatcactgtc ataaccagc aagaccatgc cactaatagc aagagaacca 180
 tacaccaaca tgcaaagcca tgcattgtcc aaccagctag gaaatcacac atgcaaagg 240
 ttacctgcaa gtattcctgt tgaagttgct tgatcctact ttcttttcct tgagccttgc 300
 ttgccttcc ttcttttgc tgaatttcc ttcttgcctc caaactagag tgctctaaga 360
 aaactctaag tgaccaagag agtgagagag agagagaata atgagagtcc aaacatgaac 420
 ttgacaaaag ccatgaactg atcctcagaa gtcattttat gcacgaggct tctattttct 480
 tcattttcca tcattttcct tcaatttcc catcacatgc aacgtgcgac ttttcacccc 540
 gttttcctcc taatttcttt tattttcata aataaatgtg ccaaaaatgc ctcttgccct 600
 agcctttgcc agtttcctta gccaaaacac acatccaatg atgccacta ggatatcttt 660

```

gcccaacatt aagcctggaa taaatgtctc ttaatcgtgg tcttattttg cttttattaa 720
cttttattac atgaactttt cactaaagct attacaaaga tatattttatt atggcaatta 780
tgtttgattt ttgaagagct agtaactttt agtttattat ggcccttttcc gtaaacttat 840
tttcttgaaa atctctataa atccaatgaa aaatttatag aatatatgtt gtgttttctt 900
cactacctct aataaatttt ttacttagta atctacaaag ccatttatta aaaaattcaa 960
gttaattaaa aattaatatc atttcaaaag tctttttaat atagtcaaag tttattaaat 1020
tctatgatgt atatttcttt taaataaatg aagaatccat ttttttactt aaaaccatat 1080
attttttata acgttgataa atagcatgca tttatataaa caaatatata tttttataac 1140
gttaagagat tgtaaaaact tttaaataat taatatttta tttattgttt tgaaaatgtc 1200
atgatttcca cctacctcgc ccatacaaatc ttgctgcaaa ccaggcttac ccaaccccat 1260
accacaata tatttttggg atctgggtgcc cccacctttg atcacagtga acaccataaa 1320
gacaaattat aaaggcaagg ggacttgga cccactgggc aaccgaaagc aacaaatcat 1380
ttttttccaa agagatgagt gtatgccaac gaagaaacac gatgaaccca cgtgtcattg 1440
gccaaactccc actttcgaca aaaagaagga aattagaatt aaaaaggcga ataaaaattg 1500
aaaggccatt taaaatagaa ggaagaatag cctatatggt agatttaa at gcttttttga 1560
aatccggtta ctgcgaagat tatcaatcgg gactgtagcc gaagctt 1607

```

<210> 49

<211> 881

<212> DNA

<213> Pinus radiata

<400> 49

```

aaattagtca aatccaaagc agacaacttg ggctctcacc taaattaaca catataccct 60
accagcttcc atagtttcca acttcctttc aataaatcta ttcaaaagca tgaaaagcat 120
gactaagggt caattcccaa gttatggaca cccacctgct ctaggcatat aggaaatcac 180
aatccaacta acgaccaact acccaaaact ttgaagaaaa tgagtaaaga ctccccagc 240
gatattataa ttatatgggc tctctagaac cctttattgc cccttccagt gttatattta 300
gttccccatt tatatatccc ttgacttatg aaaccattta ggtgcattaa catagtcctt 360
gactaacaaa aaaattattt aggtgcagta gatacgga gtaaccaatg atgctaagaa 420
actgtgcacg tactttaatg gaggtattac ttttattatg gttggtttgg atacattcat 480
aatggaagca tgtgtctctc atcgttaaag ttgtgggtgg gcattcccca tttccacga 540
gaaaccgaat cccggcgtgg agacgacgac gaaatcgatg gatattcggg ggaaaattca 600
cagtaaaatt cctggagaaa aagggtgccg aggtagttga aatccaaacc gccgaaatga 660
gctggaaacc cgccttctgt cagttagttg agtcatgact gcagctgtct caggctctac 720
actgtaaagg caccttaatg aggcattcat tctggcagtc tggctacgga acttaatagt 780
acttgttatt cctgccccaa tatctattta ataggcatcc ccctcacta cttcttgccc 840
acaatccctc catagtcctg agcttgagac catttttctg c 881

```

<210> 50

<211> 900

<212> DNA

<213> Pinus radiata

<400> 50

```

aatataaca taatctaact attgatgtac attattcgcc tataacaaaa totaagtatt 60
gatgtcacat tattggcata taacaaaatc tttaggataa ccccttagtc aagctcttgt 120
actttcatgt ttattaacca ataaatcaag ctgatatgga atagcagacg tacgtggtaa 180
taataaatgg agtgtaagag ttcgaacatt ttaattcgga ggggcagctt atgtggaata 240
tcaggcaatc atacaagctt gcttttgggt aataaagacc cacatgtggt aataacaagt 300
ggattttaac aaaccaacat tttgataggg aggatagggt gcctggtaag ttagaatgtg 360
ctagtcatgc ctttgaaaga agttagttgt ggaagtcaaa catgttcccc acacaacaca 420

```

```

cctcaccaca caaaatgctg gtaggtcatg tgattgatgg atgggcatgt gtatcctcca 480
aaaaaaatga atatacacac taaatattct attgacataa tatacaaaga agattaggtc 540
tatggaagaa ggggaaggcga aggggaagat tgggtcgtgg ggaagattgg gtcgtgtcct 600
gctagcacgt tgaataccta cacgccattt cacatctacc catcaacgtc aaatagagca 660
tccaaatcag ggcgtggtgg tgtgagggga gagtgaggag aagaagttga aaaattcttg 720
ctgaaaatcc acctaacaca cgctcaccag cccctcaacg aggggcacca attatgaata 780
ataatagcta gaacagagca gcagaagcag agtttatatc tatccattgt cgtctgtaaa 840
ttactctgtg agtgtttagt gttttcttct cttattgatt tcaggggaca agtaggtggg 900

```

<210> 51

<211> 603

<212> DNA

<213> *Pinus radiata*

<400> 51

```

aaacaccaat ttaatgggat ttcagatttg tatcccatgc tattgactaa gccatthttc 60
ctattgtaat ctaaccaatt ccaattttcca ccctgggtgtg aactgactga caaatgcggc 120
ccgaaaacag cgaatgaaat gtctgggtga tcgggtcaaac aagcgggtggg cgagagaacg 180
cgggtgttgg cctagccggg atgggggttag gtagacggcg tattaccggc gattgtgccg 240
aatggagttt tcggggtagg tagtaacgta gacgtcaatg gaaaaagtca taatctccgt 300
caaaaatcca accgttcctt cacatcgtag agttgggtggc cacgggaccc tccaccact 360
cactcaatcg atcgctgccc gtggttgccc attattcaac catacgccac ttgactcttc 420
accaacaatt ccaggccggc ttctgagaca atgtactgca caggaaaatc caatataaaa 480
ggccggcctc cgcttccttc tcagtagccc ccagctcatt caattcttcc cactgcaggc 540
tacatttgtc agacacgttt tccgccattt ttcgcctgtt tctgcggaga atttgatcag 600
gtt
603

```

<210> 52

<211> 1631

<212> DNA

<213> *Pinus radiata*

<400> 52

```

atcttatgga gtttttaaat atatatatat tttttgggtt gagtttactt aaaatttggg 60
aaagggttgg aagaactata aattgattga gttgtgaatg agtgthttat ggattthttt 120
agatgttaaa tttatatatg tagttgtgaa ggagtgtttt atggattttt taagatgtta 180
aatgtgtata tgtaattaaa attttatttt gaataacaaa aaattataat tggataaaaa 240
atgttttggt aaatttagag taaaaatttt aaaatctaaa ataattaaac actattattt 300
ttaaaaaatt tgttggtaaa ttttatctta aatttagtta aaatttagaa aaaaaataa 360
ttttaaatla ttaactttt gaagtcaa atccaaatg ttttcaaaa tattaaattc 420
atttgacatt caaaatataa tttaaataa aaaacttcat gaaatagatt aaccaatttg 480
tatgaaaacc aaaaatctca aataaaattt aaattacaaa atattattaa cattatgatt 540
tcaagaaaga gaataaccag tttccaataa aataaaacct catggctggt aattaagatc 600
tcattaatta attcttattt ttttaatttt ttacatagaa aatatcttta tattatatac 660
gagaaatata gaatgttcta gtccaaggac tattaatttc caaataagtt tcaaaatcat 720
tacattaaaa ctcatcatgt catttggtga ttggaaatta gacaaaagag aatcccaaat 780
atttctctca atctcccaa ataaacctaa ttaatatagt tcgaactcca ttttttggg 840
aattgagaat ttttctaccc aataatatat tttttttata catttttagag attttccaga 900
catatttgct ctgggattta ttggaatgaa ggtttgagta atgaaggttt gagttataaa 960
ctttcagtaa tccaagtatc ttoggthttt gaagatacta aatccattat ataataaaaa 1020
cacattttta acaccaattt aatgggattt cagatttgta tcccatgcta ttggctaagc 1080
catttttctt attgtaatct aaccaattcc aatttccgcc ctgggtgtgaa ctgactgaca 1140

```

```

aatgcgggccc gaaaacagcg aatgaaatgt ctgggtgatac ggtcaaacaa gcggtgggag 1200
agagaacgagc ggtggtggcc tagccgggat gggggttagt agacggcgta ttaccggcga 1260
gttggtccgaa tggagttttc ggggtaggta gtaacgtaga cgtcaatgga aaaagtcata 1320
atctccgtca aaaatccaac cgctccttca catcgagag ttggtggcca cgggaccctc 1380
caccactca ctcaatcgat cgctgcccgt ggttgcccat tattcaacca tacgccactt 1440
gactcttcac caacaattcc aggcgggctt tcgagacaat gtactgcaca ggaaaatcca 1500
atataaaagg ccggcctccg ctctcttctc agtagccccc agctcattca gttcttccca 1560
ctgcaggcta catttgtcag acacgttttc cgccattttt cgctgtttc tgcggagaat 1620
ttgatcagggt t                                     1631

```

<210> 53

<211> 1163

<212> DNA

<213> *Pinus radiata*

<400> 53

```

aaacagagca gataacacta aaaagaccaa ccctgttagg aggggagaaa caaaaaagat 60
cacactaaaa agaccaaccc tcttatctaa acttattttc tcttatctct accccttcta 120
ttttgaacct ttatcatttt gatagaaaat atatgttaat aaccattaaa cctacattgt 180
caagctagtg taacttatat gttaataaacc attaaaccta cattgtcaag ttagtgtaac 240
tcctttgggt ggggtgggtg tcttctctct caatctcatg ctatgacaca cttgtttttt 300
aataacatag gccgacaagt ttgagccatt atctatcttg attcctcgaa atgataaata 360
gatgttgctc gtggacttga aaaaaaccaa gtagggaaca ccacgtaatc tttccaatgg 420
cattaaaagc tactttgaaa tatgtaacac ttagcaatcc ttccaaggca ttaaaccctac 480
tctaacctat ggaacactta gcacccctcc cacggttgat aataaatgat tgattcctca 540
gaataacaaa taaaaaaaaa ctataaaact tactctaaaa tataaaatga gtatggaaca 600
cgtggcaatc cttcccatgc tcggcggtag ctactctctc cagagatttg aataacacag 660
gcgcgcgaat tatgagagag cagtggagtt aagacttagt agccatggtt attttgaacg 720
cgtggcaatt cttccaaagg ttggtagtta ctctatccag agatttgaat aacacaaatg 780
ctgcagttat gagagagtag tagagttaag tcttgctcagc aatgatagtt acgaacaacc 840
gtaatttctg gctatctctg tgtttatttg tcgtttactt gctacagtgc tctcacccca 900
catggtaaca gtgttcgatg gccatgattt ctccccaccc cgccaaacct ctacgttttt 960
attcttttaa taactcctaa tttaatatat aagagggggc aaggtgttca tacagattcg 1020
tgcaaacgac ctgagttcag cacaagttta gtcattccat gcgaactcga ctgggtcacg 1080
agatccctcg ctgcagttat agattgcagg aattagctta gcagcatttc tatctatgat 1140
cttctgccac ttcttcccct ctc                                     1163

```

<210> 54

<211> 638

<212> DNA

<213> *Pinus radiata*

<400> 54

```

aaggtttgct tggaccagcg acacagggaa aaacatggca tgcgggtttg gattaagatg 60
aggcccaatc ttaatttgat atgtttgcca aaccttaggt tgtttatcta atttttgatt 120
ggatctgata tcttgatgat ttaagggttt tccatgttga cacgcaattg taggttctctg 180
ggcactaagg tctaccatgt ggcgaattta tcgagagttg acaattcttg tactgttagt 240
gatttgtcac cactctacgg tccctgcaga tctcagattt ttaatggctg cctttgatta 300
tctaaaggct agccccta atcgcggtatg aatgtataaa gaatgtgttc caatgcatta 360
gagtactcaa agacatgttg aaggaaaagg acaagtcaag ggacatgagt aataacaaaa 420
aaagcacttg gtctgacca tctgtgtctg attcacactg ggattcacat gttatttaag 480
aaaagttgca tcagtgtctg aatcatcaag ccattcctaa tttaccacca tgattagatt 540

```

attttaatgc aagaaaacgc ctatataagg agagctgcag gcccgaaggt aatgcagtaa 600
tcaaaacttga ggagagattt gagagtgttt gtgaaggg 638

<210> 55

<211> 786

<212> DNA

<213> Pinus radiata

<400> 55

aaacgcttca tgccccagaa gccgcactcg atgcttttaga ataaaatgga ccattaccag 60
actacgcgcc tccaaaataa caaaaacgtg tattagttaa accctacata gcacttaaag 120
cttgtcttac tattatttta cgtaattctg tctttttgac agtggattga ttggaacttc 180
cattctcgat acagttgtat gcgttatgtg aactgaacca acctcggcca aaatatgggg 240
aagattcact tcagaaaaga caggacaacc atctctgatt gtcgacatta atatcgga 300
aaattcagtc aaatgatgtg gaaagggtca tctacggaaa ataaaatagc tctgagatga 360
cccgttacat ttagtgcata gcatctttgt caacaagaag aaatttccag ttgtaggact 420
ggatcatcaat ggccgtgcct gcaacgcttt ttcgcaacag gaaacacgga ctaaaaaacg 480
cggctctatct gtcatttgac ggtacgtttg gcactgagcc cgaaaaaatc ccattggtag 540
aathtagaa agggagcttt cactcgaaaa ttctgtacca caagcgttg cctcacaata 600
acaaattatt ataccacat ggaaaatgtt aaatcggacg gtccgacggt cgaccaaaga 660
caaaattgat gagaaagttt tgagggtggg tgataaagta agcgcgtctt ttcacaggca 720
tctgcattat aaacctgcaa ctccaacttt catcacaaca aatttcattt tccccttctc 780
tgaggc 786

<210> 56

<211> 1302

<212> DNA

<213> Pinus radiata

<400> 56

aaacaacaaa aaataacaat ctacctagaa attatattac caaatttcaa ttaaaaaacc 60
catttcttag attattaaac tacaccatta taattttcat aataactact aatacaccat 120
tataaatttc ataatactat tcatcccatt ataaatttca taataacttc taataacca 180
ttataaattt cataatacta ttcattccaa tatgtgctac catttagata tttttgagcc 240
aaaacccaac ccgaacaaaa atttgtaatc tcgagattaa tcacaaaatt tgactcgatt 300
catatgcaaa ttggaataat tactcgtcat ggatgagatc ttaccgttg tgtgatcatg 360
atgacggcca actttggcac gttcatatc acaaattgca acaactactc tgctttta 420
ggatgacct tgatgacgac caagcttgac acgattcata tgagagaaa aactcaaaca 480
atctactgca atgtgaaaag ccatgggcac cgccaagata tttaattgtc caacgcgtaa 540
caattagtta ccccaatgg gcattggact tgcctttgtc ttgatgtcga aaacaagggg 600
ggatttcttc tctttaagaa aaatagaaaa aacaaaacc ctgcacagct gggttctcct 660
ttcttcaagc ctgggttggc ttcaacataa agaaacaaaa cccattccat ggtgtgtct 720
tattgtgggt ttgcctaatt caatgttatt agtgggtgaa acttcattac agcaggatgg 780
gagagccaac ctcaagagag tgactctgta accatcaatc ttccgcattg cctgctgcc 840
atggatgtac tggcgaaaat aaagggtcaa ctttgcctaa agatgcagtc agctagagtt 900
taactcaagg aggcaaccgg cttctatgta atacctgtgg aatgaaaacg aatcccatgt 960
accgaattaa gggaaaactg ggtgcagaga ttttgtttgg tttagactct agatatggta 1020
ttacagctcc gattgggtgg tcgaaatacg tcagagcacc ccacattgcg taattcttca 1080
ggatcagat gcctgcctag tctacatata tgagttgcag tttctcttca gcagtgggg 1140
ttggcggctc tgacagtaca gttagtagag actatctatt ttccgtgtac acaacgcttg 1200
caatgcagat ctgggcgcta ttataaaaga tcaaacaaga gctaggcttt cagaattgcc 1260
tgaaagctgc tgccaattgc atagatctgc tcaaggcacc ac 1302

<210> 57
 <211> 638
 <212> DNA
 <213> Pinus radiata

<400> 57
 ctgtattcat cactttacac ccatgattcc aaaccctaca catttacact gataaccaag 60
 gggttcagggt ctttccaatt cattttaatc caggatgata ataaatttga atagcacaat 120
 agcatattcc aactgacata tccctacatt tgggatctct ttccacgtta taaatggctt 180
 caatttaggg atccctttcc acattatata actgggttca cagtggtttg aagatagctg 240
 tggtttgaag atagctgtat atgttatcaa aatgacagct cccttgccag ggaccatcgc 300
 ttgaatgatg agatcccgcc tgtaaggcaa cttgcagcat gattatttta catctgcttg 360
 accaattatc taacaatata cgcggtgtcg tcgttcggtt aaataatagt gaaacttcct 420
 cgtgttgtcc ctgcagttac gtatgtcttg ttcttttttt tgtttaataa catacagcag 480
 agcaagtgtt ggggtgaataa atattgggaa gaagctgcag cgttcacgtt cattcattca 540
 ctcacgtga gcagcagtac atcaacagtt cttgaagaac attgataggt tggctatttc 600
 aatcctttca tggggaatat ttaagtctgg atccgagc 638

<210> 58
 <211> 1350
 <212> DNA
 <213> Pinus radiata

<400> 58
 atcttatcac atttttctcaa gagaagggtt gtgaccaact tttaaattttt ggtctctttg 60
 atgggtggtaa attgggggcaa tgagactcaa cattgttaga acatttacct ttctcactat 120
 ttggaggatc tattaagaca aaagctctca tgtatttcct ttacatgcat gcacatttat 180
 aggggaataga atggagtagc aaattgactt tctaaggaag gcctactctt gactcggggg 240
 ttgtggcagg tagttgaaga ctagggagcc ggtcactacc aattttacca tcaaccattt 300
 acagacgaga tacaaaatga tgattatgtt taatttttga aactttcact tattaatttt 360
 tgtgacgcat tcataacata ttatgttagt atatatgttc gtccacaggt tgttggttt 420
 ggtaacacta tactagtatt tctttgtgat tattttttat gtaatgcaat atagccctaa 480
 atgaatattg tgaaagtgat atttttcagg agcatcaaga ccatcttcat ttgtaaatat 540
 gtgataaaaag gggggtgtga taaatttttag tattttgtta tttttaataa aataggaagt 600
 gaagattatg taaatattat tttctaaata aaaggatatg agagaatagt ttaggaaaaa 660
 gaattgggat agaatttcta tgttttttca attaaaatta ggataagaat ggagaataaa 720
 gcttcacgct ttaaatcatt atgtaaaacg gaaaaagcct gctttttgtaa aagataagg 780
 ctgagaagac ctatccctta tgtatgtatc cgttattatt ataaataaag aggtagctaa 840
 tctctcaagg gagagagagg agcgagcgct ctggaaaaag atggatgatg tcttggtta 900
 attgttaata tggatgcgcg tagttaatag tttatttgga ctgtgtatta agcattgaat 960
 ggtagctgt atatgttatc aaaatgacag ctcccttgcc agggaccttc gcttgaatga 1020
 tgagatcccg cctgtaaggc aacttgacgc atgggtattt tacatttgct tgaccaatta 1080
 tctaacgata tacgtggtgt cgttattggg ttaaacaata gtgaaacttc ctcgtgttgt 1140
 ccctgcagtt acgtatgtct tgttcttttt tttgtttaat atcatacagc agagcaagtg 1200
 ttgggtgaat aaatattggg aagaagctgc agcgttcacg ttcatcatt caccatcgt 1260
 gagcagcagt agatcaacag ttcttgaaga acattgatag gttggctatt tcaatcctct 1320
 catggggaat atttaagtct ggatccgagc 1350

<210> 59
 <211> 700
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 59
 atcaattcaa gtaaaaaatt ttaatcctaa cttagtcata aacttttatg caatattcca 60
 atataatccg tcagtcaata ttaatcggaa ttgttgacgt agcgatgcgc cacgtagaat 120
 gactaacgat ggctaaaccg ctatagtagc gatttctgac aaatattaac tgaatgacta 180
 tattttcctc attattcagg ttatattgtt ttgttttcat gctatttccc caatagcaaa 240
 tttgttcacc tgctcctgga aattccttac gacgactcac cacttattct aacgaatctg 300
 atgggtgatt cttgatatta ttgaccatg acataataaa tgtcaaggga aaaagagaaa 360
 aaaataagaa aagcgaagaa atccaccggt catcattagg acagacacat tatacgccgt 420
 cataagggaa aatgaaattt aactaaacat cactaacgtc aaccaaactc gaaaacaaaa 480
 cttgaactgc agtagctaga tgtagctctt gggttcagccc ccagaacccat cgcctatcgg 540
 gttgatgggt gaagatgtga tcttggtcct aatcacctaa tcaacgaacc accgtttctc 600
 attcgctccc tccgtataaa aacctcgagg cttgtcctat cttggagcat cgcattccaag 660
 aaacaccatc tcattcctgtc tcagtcccca tcattcattg 700

<210> 60
 <211> 1032
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 60
 gtcgttttta tattgtctag ccacattagc atgaaaaaca atgttgtttt gcatttcctt 60
 tgcggaagaa ttgccgcgtt ggcatttttg ttggaatgac acttaaataga tccattttgt 120
 tttgattttg acacttaagt attactttcc aaagttttga cacttaagtg tccattcgca 180
 ctaagttttg gcatttgagt gttcctccgt atcaagtttt gacatttgta atgtactttt 240
 gtcataatg ctaatgtgat aatgagacta aattaaacat atattaaaaat ttcagaatct 300
 acattaaata atttaaaaaat ttatgaatca tattacatat tacgataaag ttcaagaact 360
 atattaaaaa aattaaatat ttatgggtca cattacatac gagtgaataa ttaaggacta 420
 tttattttgt tattttcttt tccattaaca aaaatcttcc ccacctcatt ttaaattcga 480
 gaaaagaaga aaagcaaaga aaaataatag agaggaaggg acccaactcg agattgggct 540
 ccattgatgg aaactcgcga tctactccat ctgcactcga cagcccatcc tctgaagata 600
 acatcatcgt ccgcaccgca ttgcacccta ccttctgggc tgaatgacca cattgcccct 660
 ccaccaaatac tatccgttgc ctgcaatgcc ggatggcaaa gcagcaattc ccgcaaaagt 720
 ccgagcccat ttccctccgg ccaaatcgag aaaggactct tgatttttga aaactgggcg 780
 ggcaactaac cttggttagg cgcctccatc attaacccca caccaaagt taaacccccg 840
 ctttcgctgg cactttctaa atcgaaccgc gggttaacgta accgcgggta accaaccaga 900
 tatttttcaa ttttttccag tggcgctcta tatatcttta aacttcccct ctgcatttcc 960
 catcagctct gcaagtcctc ctccatcttc ttcttcttca tcgtcatctt ctcggaaggc 1020
 gtcttgataa ac 1032

<210> 61
 <211> 529
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 61
 atcaaagtta gtcgcacttt tacataccca actgtacctc caaagtgcac cattgaactt 60
 gtgacaacgt ttagatttag gtaattattc agaaaacgaa agcgaccaca ggtttatgaa 120


```

ttgtcacgca tgacgtcatt aattaagcga caagacgtgc gccaaaggcca tgcattcctc 180
tgcggctatc cttcttcctg gcaacagttc aattcctcag acggtctggt caaacccgaa 240
gctcgactag gcctttctca accaaaccct ccaagaaagc ctaaggacag catgccctcg 300
cgcggatcaa cagcaccgac gagcatcgaa cttgcgtaac ttaccccacc aaacgggtccc 360
cttcgagggtc aaaccccacg cgaacgaccg atgaatcgaa catctaattc cgctctctct 420
ctcctccact gctatatatt tcagctactc taacacactc tcataccac caacttcaaa 480
ctctctctct cctcctctcc ctcctctctc cgctcacaca tacacacat 529

```

<210> 62

<211> 710

<212> DNA

<213> *Eucalyptus grandis*

<400> 62

```

ctggagttca cattgagctg gtgccgatcg atccgtttct tacatttttt catcccggtc 60
cgtctccatt ctctgcctcc gtcggcatct tgggcgacga gaggaggagg agatacgcgg 120
tagctgacga gttcgaggcg caacttttct tcgattaact tttaactcga caccgatcat 180
gctttaagca cttacccttt tcgagaaaca ggagatggac atggagttcg acgtaaagat 240
cccgtctttg attacagaaa aagcatgctc agaggaggag gaatgatatt tctgtttcc 300
atggtggtga taaaagcttt gatttttctt tttcaatgac gtagctcgag tggccgataa 360
tcgacaagga ggtccaacta ttagcaccag aatggaaaag aagagggaga tagatagcga 420
ctaccacaag ctacattaca aggattaata taagcaaaat tactgcaata cgatattgac 480
ccgattggct ttggatgata aaaaaacaat tctatattca atcacacgtc ttcgtccccg 540
ggaaagcaat gatccaaatc atgtcaagga gctatactcc taagcccacg ttagcccaca 600
ctcttctcga aagacatatc aaatcaatac actcactctc tctattaata ttcaatttct 660
gcataatttc ttctgtcact gcccaagacg ttctgtagca ctaaggggtg 710

```

<210> 63

<211> 365

<212> DNA

<213> *Pinus radiata*

<400> 63

```

aaattcacat tctttttctt cgcacgaaga aagggttaaag atacaactcg gattgtatta 60
aaggaaagag attggaacaa acagaatctg gaataataaga atacaccaga tcgcggggcac 120
ggccacagtt taacggccag ccgaaaggcc ggtccgttgg gtctgccggt gacttggtcg 180
tgtgagggaa tctctggagt ccggtaccgg tcttgccctg agacctacca caaccacagc 240
agttaatgca gtttacatcc tattaatata aataccaaat cgccattcca aattattatc 300
acaacaacaa atctgatttg atttcgatgc agtgaagctc ttcattttgc agtgacagtg 360
acgtt 365

```

<210> 64

<211> 1304

<212> DNA

<213> *Pinus radiata*

<400> 64

```

ggacaaacga gattttattc tcatccagtt ccatctattc tctgtcactg taacttgtag 60
agattatatt aacgatgggg ttatgatcgc ttcacgtttc cagatagaat ggagagaaca 120
acagcaagga aatcgacagg ccataactta atgggggtcac tgtaaggcct tccggggcgt 180
aaacacgaag ctttgtacag agagtccacc caaaaacaag catcatcaca gtgacaataa 240

```

```

ttgaaaaaga aatgaaaagc tccactgggc ttctctttct ggaaccttct ctccgaagaa 300
atcgacttac agaatttaaa aaattttaaa tgatgttctg tagcaacctc ggccctccac 360
tgtcaccata cctgcccctc cattgtcaca ttctatcttc tcatcttaaa caccacgcat 420
ctcgcttttc cactgcatgc agagatcgac gatctctttg cttgatctct aagtcgaatt 480
ctgaccgcaa acctccatca gacttgcgca catcttaata gatggcgctt gtttgtgccc 540
aaggggttct gggactactt tgaggactga aggtgttatg cttcagagat ttggaggcct 600
agggttcgat tcacagccgt tgagatttcg acagaatttg gatttttttt ctctggctgt 660
ttgaggagaa tgagagagat attgcacatc cagggcgggc agtgcgggaa ccagatagga 720
gccaagttct gggaagtgat atgtgacgag catgggattg ataccacggg ctctgactgt 780
ggggactccg atctgcagct ggagaggatc aatgtctatt ataacgaggc aagcggcggc 840
cgctatgtgc ctggggcagt gctgatggat ctgcaaccgc ggaccatgga cagcgttcga 900
tcaggtccct atggtcagat cttcaggcca gataacttcg tctttgggca gacaggcgcc 960
gggaacaact gggccaaagg gcattatact gagggggcag aactcattga ctccgttctt 1020
gatgtcgtgc gtaaggaggc cgagagctgc gattgtcttc agggatttca agtatgtcat 1080
tccctgggag gaggaacagg atcgggaaatg gggactctct tgatttccaa aataagggag 1140
gagtaccag acagaatgat gttgactttc tctgtttttc catcacctaa ggtatcggac 1200
acagtgggtg aaccttataa tgcaactctt tctgtacatc aattgggtgga gaatgcagat 1260
gaatgcattg ttcttgacaa tgaagcactt tacgacattt gctt 1304

```

<210> 65
 <211> 2062
 <212> DNA
 <213> Pinus radiata

```

<400> 65
gtatcattat ttcagtcatt atcgataatg ataagcctca aatatgaatc aatagtctct 60
tagtcattta atttatggtt ttcagtgctg atgtgctctc ctgccagggc tccaccaatc 120
tccttttaggt tcagtgtaga tcgtctgaaa ataagttgac aaggccaggc caatgcagaa 180
gcctcctggc ttggggaccc taagtgtgaa atcaatatat ttctctcgag ttcttgacct 240
gtaggaact tcgacactgc aacttgctct aatctttgct gtgtattatg tttttgttct 300
caagtattgg agttagcac agtggatggt agagaggagg atctagatca gtcactttta 360
catagaatgg agatgatagt aaaagcaact acaattacga tcttgctacc agtcatecta 420
tggtgcatcc catgtggaga aagtggaaagc ggaggcagga gtttggcgca gcgtttacca 480
gccctaggcg ttgactatgg acaaactgca gacaatcttc ctccaccatc tgcagtagca 540
aagctgggtc agagtacaag tatttcaaag ttgagactat atggagcaga tcctgcaatt 600
cttcaagcat ttgctaacac aggaattggg ttagttgtag gcattggtaa cgatcaaate 660
ccatctctga accagctggc tgttgacacg aattggatta agaacaatat cgttcctttt 720
gttcctgcca ctgatatcat tggaatctcg gtggggaacg aggttctgtt cagtggggat 780
gggagtctga tttcccagct cctccctgca ttgcagaacc tacacactgc cctgtttgag 840
gtttcacttg accagcaaat taaggctctc acacctcatt ctctggccat actttctaca 900
tctgtccccc catctgctgg ccgtttcaat gaaagttttg acatgaaatc cctgcttgac 960
ttcttgacga agataggggc cccattaatg atcaacccat acccctactt tgcttacaag 1020
agtaatccca ccgatcaaac cctggcttat gcactcttcg agcccaaccc gggcttctat 1080
gacacaaaca gtgggctcac ctataccaac atgtttgatg ctgagcttga tgcagtgtac 1140
tcagccatga aatatctggg ttaccctggt gttgatatag tgggtggctga aacaggatgg 1200
ccagctgtgg gggatcctac agagacaggg gtgagcttac agaatgcaat tgcttacaat 1260
ggcaacctga tcaagcatgt gacgtccatg acggggaccc cattgaggcc aaataggtag 1320
attcaaacct atatttttgc cctctttaat caggactctga agccaggacc aacttcggag 1380
cgcaattatg ggctgtttta agttgatatg acaatggctt atgatgtggg tttgttgcaa 1440
tcgccgagtg cagctccatc tctcctgct ccacgactg gggggcctgt gacaactcct 1500
cctacaggta aagtttggtg cattgccaag ccgggcgccc aagagcaaac tttggaggca 1560
aatttgaaat atgtttgtgg acagggcatt gactgtagge ctattcaacc aggaggtcct 1620
tgctattcac caaatacagt ggcaggccat gctgcttatg ccatgaacgc atactatcag 1680

```

```

actgcggggtc ggaacaattg gaattgtgat tttgcgcaga cggaactct tacctccaca 1740
gatccaagct acggggcctg cgtgtaccg accgtctaag atatgaatca atcaatcaat 1800
cctagtgttt tctattccac ttgttggtcg gtatatattt tccaacttgt cttttcatat 1860
gagtgagatg tatgaggtag ctattttcaa agttgtgata gcatatacat cataagatgt 1920
aatgtgtatg tttgggtttt attccccctt taatgtcggt actctgacca tataaaaaaa 1980
ttcacagaat ttgtgaatgg tagtattatt ttttatttat gtattaagga aatttaagt 2040
gtgttaaaaa aaggaaaaaa aa 2062

```

<210> 66

<211> 542

<212> DNA

<213> Pinus radiata

<400> 66

```

aaaaaaaaatt atgatctgta aataaatata attccatata taatagatat atataaattt 60
tacaaccac agataaatat taactttccg ccaaaataat ttccataaat gaaataaatg 120
acccaatatt acgattttac accaaaatga tttccatatt tatatataaa gcctgtgagt 180
ccaaacgaag catatgaatc tgaatcgag agggaggctg gccaacacc attagctatt 240
caatgaagtt ggtagccacc caaacaagtc aattcaagag tcaatcaaac caaactatga 300
ttaaaactac caaccgact ttctgagcaa cccactttcc ctccctcgct ttactttttg 360
gagtcgtggg ggatttttcc agtgctctcaa tttctataaa tttggcctca catttcctac 420
caactcattg ttaacgggag tcctcttggt aggctccgct gcttcttggt atcacacgat 480
acctagtgat ccatagataa ctaaaatgct gtgagcagtc tgaattcttg ctttctttcc 540
cc 542

```

<210> 67

<211> 349

<212> DNA

<213> Pinus radiata

<400> 67

```

gtctgtatta ttatattctg ggtcactact caacccacg gtagtggcgt gacttgcgct 60
ggcgtgttac agaatccata atcagaaaac gaacggaagc tgcaaagggtg tacgtccaac 120
ggttgcggtg aaaagccatt ggttacgtcc agcgggtggaa ttctgtaata ctgaaaggat 180
ttggttacag atggctcgac caaagacaaa atagtaatca aatattcaac cgaaagggtg 240
aaagttgctt atgggcatca cgttataaaa gtggaactcg actttcatta ccacacattt 300
ctcatttctt tctctgtact gagccattcg ttctcctttc tttcagaga 349

```

<210> 68

<211> 222

<212> DNA

<213> Pinus radiata

<400> 68

```

ctggcaactg gctattcctc attcgtcagt gggaatgggg tgggcagacg atcttctaga 60
gcctgtgtgg tgtggggccc ttcgactttt caatggcccg ttggtcacca gcttggaacta 120
gttttgctgt ttccatgggt acggttcggt ctctataaaa taatttaacc gagtgggtat 180
tttgcatggt ggccggattt ccaacaatct caggtattag cg 222

```

<210> 69
 <211> 403
 <212> DNA
 <213> *Pinus radiata*

<400> 69
 atctaaccga cgatctataa taatagtcaa ggaccctaaa tagaaatatg gccaccaccc 60
 taccacgaga gcttatccta atacaaccac gaaagcccct ccactcgtgg aggttataga 120
 tttccccgt gtaaacatat aaaaggaact tttctctttg gtgaccggca acaaccggat 180
 actcaccggg tatcgccgaa gaagcttggt gcgagggttcg cattgaaaac cctcctctct 240
 tcacattctt tgccgggtcat ccactcttgc catttctact tccgcctcct cttctcttcc 300
 ctgctctagt gttttctttg cgttgtgtag tgtaatgttt gctggtgctt catatcaata 360
 gtggtggaat tttccttcac tgcgagcaga ttttctaagg aga 403

<210> 70
 <211> 1032
 <212> DNA
 <213> *Eucalyptus grandis*

<400> 70
 gtcgttttta tattgtctag ccacattagc atgaaaaaca atgttgTTTT gcatttcctt 60
 tgtcggaaaa ttgccggtt ggcatTTTtg ttggaatgac acttaaata tccattttgt 120
 tttgattttg acacttaagt attactttcc aaagtTTTga cacttaagt tccattcgca 180
 ctaagTTTTg gcatttgagt gttcctccgt atcaagTTTT gacatttgta atgtactttt 240
 gctcataatg ctaatgtgat aatgagacta aattaaacat atattaaaaat ttcagaatct 300
 acattaaata atttaaaaaat ttatgaatca tattacatat tacgataaag ttcaagaact 360
 atattaaaaa aattaaatat ttatgggtca cattacatac gaggtaaaat ttaaggacta 420
 tttattttgt tatttctttt tccattaaca aaaatcttcc ccacctcatt ttaaattcga 480
 gaaaagaaga aaagcaaaga aaaataatag agaggaaggg acccaactcg agattgggct 540
 ccattgatgg aaactcgga tctactccat ctcgactcga cagcccatcc tctgaagata 600
 acatcatcgt ccgcaccgca ttgcacccta ctttctgggc tgaatgacca cattgcccct 660
 ccaccaaatc tatccgttgc ctggaatgcc ggatggcaaa gcagcaattc ccgcaaaagt 720
 ccgagcccat ttccctccgg ccaaatcgag aaaggactct tgatttttga aaactgggcg 780
 ggcaactaac cttggttagg cgctccatc attaacccca caccaaaagt aacacccccg 840
 ctttcgctgg cactttctaa atcgaaaccgc ggttaacgta accgcgggta accaaccaga 900
 tatttttcaa ttttttccag tggcgctcta tatatcttta aacttcccct ctgcatttcc 960
 catcagctct gcaagtcctc ctccatcttc ttcttcttca tcgtcatctt ctcggaaggc 1020
 gtcttgataa ac 1032

<210> 71
 <211> 1039
 <212> DNA
 <213> *Pinus radiata*

<400> 71
 aaataggcta aattagagaa atactatggg ttgtcaaaac ctagaatacg ataatttgac 60
 cgaaatatTT agataatgta acataacatg acatgacatt acaacatctc ttccatagag 120
 aatctctcaa taaaataaaa tattgcacaa acaaaaacaa ctcaaaaactc aattttatatt 180
 acacaatata ataataaaca atttcaatta aaacattttt acctttattt attaataaac 240
 ctacactaa cacattgtta aaaaagtaaa ataaaataac aaacgccata taaaccata 300
 aaaatttcca aaacaatatt aatatcttta tcatagtttt taagctaaag ttcgatgatc 360
 ctttaacatt actagccaca aggatgctta cttccttgca aaataacaat gcaagagacc 420

```

aacgcagtga tatgtgattt aacggtaagt atggttgggt gaaaccaaca agactgcagt 480
tcaaattcca ttgagtatat ggcctgctat gatctcagct tggtgaaacc aacaagactg 540
cagttcaaata ctaaattcca ttaattatgt gacctactat aatctgggct taaggagtag 600
gttgctcgct atgttttgggt gttataaagt agccataaag attaaacctc aagctcccct 660
aaattaatcc aagaaattac cgattcatta taattaaaaa aaatgcaaata acccacctta 720
aagaaaaaca atgtaaagag caatgaaatc aatttaattg tcttctttta acaccaataa 780
aaatttataa aaacctcata attaaaaaca aagcgtaga cttttggaat aaccttcctt 840
aattgcttct ctaatttatg atttctaagt cataccacga tcggtcggtt tagcaaaagc 900
ctgaaaggca agtagaagat aaacgtatgc ttggaaataa atatatgtca tttttcattt 960
tatatccttc gaatccgtca ttcgtctgaa tgatcagaca aaccctccca gatcctgctc 1020
tgttctgaag cataaacct                                     1039

```

<210> 72

<211> 13

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
nucleotide motif sequence

<400> 72

aatcaaattcc tcc

13

<210> 73

<211> 13

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
nucleotide motif sequence

<400> 73

aatcaaattcc tcc

13

<210> 74

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
nucleotide motif sequence

<400> 74

tctccctcct ct

12

<210> 75
<211> 13
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide motif sequence

<400> 75
ataaagaagt gaa

13

<210> 76
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide motif sequence

<400> 76
taaacttatt ttct

14

<210> 77
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide motif sequence

<400> 77
taaacttatt ttct

14

<210> 78
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide motif sequence

<400> 78
ggagaaacaa aa

12

<210> 79
 <211> 16
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 nucleotide motif sequence

<400> 79
 aagtaaccaa tgatgc

16

<210> 80
 <211> 13
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 nucleotide motif sequence

<400> 80
 actttgaaga aaa

13

<210> 81
 <211> 11
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 nucleotide motif sequence

<400> 81
 tgaggagaag a

11

<210> 82
 <211> 11
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 nucleotide motif sequence

<400> 82
 atcaagctga t

11

<210> 83
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide motif sequence

<400> 83
aatttcattt tc

12

<210> 84
<211> 13
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide motif sequence

<400> 84
taaatttgaa ttt

13

<210> 85
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide sequence

<400> 85
aaatataaca taatctaact attgatgtac attattcgcc

40

<210> 86
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide sequence

<400> 86
cccacctacc

10